Lectures ON DISEASES OF THE NERVOUS SYSTEM.

Delivered at the Westminster Hospital,

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LECTURE I.

GENTLEMEN,—Before commencing a detailed survey of the individual diseases of the nervous system, it will be necessary for me to impress on your minds certain general characteristics of the morbid conditions of this portion of the organism. These peculiarities, which give to the class of nervous diseases a stamp of its own, correspond to certain peculiarities in the structure as well as in the functions of the nervous system, as compared with other organs of the body; and I think it essential to remind you, in brief outline, what these characteristics are.

1. The nervous system is, before all things, a great apparatus of communication: communication of the individual with the world around him, and communication of the different parts of his body with each other. Of its importance in virtue of the former function I need say nothing: you are aware that the whole of those powers which we call senses and intellect depend on its integrity—in short, almost the whole of our life of Relation by which we are connected with our fellow-men and with the universe surrounding us. It is more difficult, but not less important, to appreciate the immense importance of the nervous system as an apparatus of communication between the different parts of the body; I must therefore ask you carefully to follow the remarks that will now be made on that point.

The nervous system of man is the culminating example of that progressive series of improvements of organisation by which the various members of the animal kingdom differ from each other. In the comparatively simple organisms of the lower animals the number of functions to be performed is small, and the individual functions are far less specialised to particular parts of the body. As we trace upwards the animal series, however, we observe an increasing complexity of structure, and an increasing "differentiation," or setting apart of particular organs for the performance of particular kinds of work; and in direct proportion to the increase of this differentiation is the increase of the need for perfect and instantaneous communication between all parts of the body. To this work of telegraphy, if I may so call it, between the different organs, the nervous system increasingly lends itself, till at last, in the perfected organisation of man, it assumes such enormous importance that, to an imaginative observer, it seems as if the whole animation of the body resided in those delicate masses of cells which we call nerve-centres, and that fine network of ramifying fibres which we call nerves, and as if the grosser organs were but passive agents, possessed of no independent life apart from that communicated by the dominating nervous organs. Indeed there is always some danger of the prevalence of a too exclusive doctrine, which would trace the origin of nearly every variety of organic disease primarily to the nervous system; ignoring the indisputably independent life and independent tendencies to disease which every tissue and organ possesses. Be this as it may, however, it is certain that disorders commencing within the nervous system may indefinitely aggravate, and in some instances absolutely create, disease of the most various organs of the body. And this intense sympathy is mutual; for the disorders of the non-nervous organs are continually giving rise to disturbances of the nervous system, which may be either simple and slight or most complicated and grave. For examples, I need only mention the dull headache which is often caused by an indigestible meal, the delirium which occurs in severe pneumonia, or the fatal tetanus which often follows a wound of a limb. Even the much-abused word "hysteria," though its etymology represents a most exaggerated view of the frequency of uterine mischief as the cause of nervous disturbance, finds a certain amount of justification; for it is certain that in females of a delicate nervous organisation uterine troubles are able to provoke a vast amount of nervous disorders of the most various kinds.

2. The next great peculiarity of the nervous system which is important in relation to nervous diseases is this: that, along with a wonderful unity, there is a no less remarkable independence of its several parts and functions. To certain forms of shock or irritation the whole nervous system will react with the utmost promptitude and violence; but in the course of every-day physiological life, and to a large extent in disease, small individual sections play a perfectly independent part, undisturbed by (and undisturbing) nervous organs that are in close neighbourhood to them. The nerve-fibres, which are mere conductors of impressions to and from the ganglionic cells, which are the active distributors and regulators of nerve-force, never blend with each other in their course; they may run in the same sheath, but their proper substance does not mix, nor are their impressions conveyed directly from one to the other. In the substance of the great sciatic nerve, for example, there are afferent fibres conveying impressions to the spinal cord from the extremity, there are motor fibres conveying motor impulses from the cord to the leg-muscles, and there are vaso-motor fibres conveying outward impulses of contraction to the bloodvessels of the limb; but these fibres do not intermix—they have no communication except indirectly through their individual centres in the cord. Then, as regards communication between the centres—that is by no means promiscuous, but follows a certain orderly plan: for instance, certain irritations brought by afferent nerves from the surface always cause an efferent stimulus to pass along certain vaso-motor nerves, and produce contraction of bloodvessels which are under the governance of the latter; certain other irritations brought by afferent nerves always cause the sending outwards of an impulse to contraction of voluntary muscles, and so on. You are able, from these considerations, to understand how a disease (for example in the spinal cord) which is limited to a small patch of ganglionic cells may interrupt the function of just one small set of fibres, and may produce a singularly limited, though very distinct and peculiar, disablement. The most remarkable instance of the kind which I ever witnessed was that of a young lady who suffered a shock in a railway collision. The disease only slowly developed itself, and was not made out definitely till some months later. It then appeared that the only definite lesion must have been in a group of vaso-motor fibres (or the cells which presided over them) in one-half of the cord, just opposite the lowest cervical vertebra; pressure on this point produced instantaneous extinction of the right radial pulse, the left pulse remaining quite unaffected. This and a general sense of malaise and ill-health really constituted, at that time, the patient's only malady; but it was rightly judged a very serious one, as the disease produced was doubtless a degeneration such as would be exceedingly likely to spread to other portions of the cord.

3. We come now to an important peculiarity of the nervous system, in reference to its liability to disease. It is a remarkable fact that the true elements of nervous tissue are in a very large degree exempt from the more pronounced and active forms of disease; that, in particular, acute inflammation rarely attacks the real nervous elements, except in a secondary manner. This proper nervous substance, whether in the form of fibres or of ganglionic cells, is everywhere surrounded and supported by connective fibrous tissue; and it is this connective tissue which is the seat of the vast majority of the acute and chronic inflammations and the degenerative processes succeeding them, which are capable of producing serious mischief within the nervous system. The connective tissue varies in character in different situations. In the small branches of nerves near the surface of the body, which contain but a few fibres, the connective tissue which forms the sheath of the nerve is of the same general character with that which is distributed so plentifully throughout the body, filling up all the interspaces of the organs, and which is especially calculated to allow a certain amount of play and movement without damage. But if we trace the nerves further inward towards the centres, where they form large, as yet comparatively

undivided trunks, made up of a much larger number of fibres, we find a difference in the investing connective tissue; here the sheath of the nerve—the general covering which holds a number of fibres together as one strand—has become dense and firm, while, on the other hand, the *perineurium*, or that portion of connective tissue which surrounds the individual fibres of the nerve, is exceedingly delicate, contains no *fibrils* like those of ordinary connective fibrous tissue, but consists merely of clear structureless membrane sprinkled with cells which contain elongated nuclei and a certain amount of granular matter. The external sheath of the nerves, which, as we have said, is tough and strong, is the carrier of the larger arteries and veins for the nutrition of the nerves, and sends processes inwards that convey those vessels into and out of the substance of the nerves; on the other hand, the network of capillary vessels ramifies in the perineurium immediately around the individual fibres. When we come to the central masses of the nervous system, we find yet greater special modifications of the connective tissue. In the brain and spinal cord the perineurium becomes more and more delicate, while the investing membrane, corresponding to the sheaths of nerve-trunks, is divided into two layers—an external (called *dura mater*), which is very tough, contains but few vessels, and is well adapted to the function of mechanical protection, and an inner layer (called *pia mater*), which is a sheathing of very loose connective tissue conducting the larger vessels.* In the spinal cord the pia mater is prolonged inwards as processes or tubes around the smaller arteries; in the brain there are no such distinct processes, but there is an exceedingly delicate layer of connective tissue, consisting simply of a homogeneous membrane with nuclei on its internal surface, pretty closely applied to the individual vessels; it is the so-called "adventitia" or "perivascular lymph-vessel," of which we shall have much to say hereafter. Then, finally, there is the perineurium of the nerve-centres, which is more commonly known as the *neuroglia* since Virchow gave it that name. In the white substance of the centres it consists of a soft, finely-granular, spongy material, in which the nerve-fibres are imbedded, and it presents a certain number of nuclei. In the grey substance the limits of the neuroglia cannot be so easily defined, but it is distinctly present as a sponge-like and finely reticulated substance with scattered cells, though how much of the cellular elements observable are to be put to the account of the neuroglia, and how much really belongs to the true nervous elements, cannot at present be settled; at least, however, it is certain that the principal bulk, for example, of the cortex of the brain—the most important stratum of cellular grey matter to be found in the whole body—is made up of neuroglia, or supporting connective tissue analogous in function to the perineurium which surrounds the individual fibres of nerve-trunks. I must beg you carefully to bear in mind, and from time to time refresh your memory of, this general picture of the distribution of that connective-tissue framework which everywhere interpenetrates and supports the true nervous tissues.

Of no less consequence is it, also, that you should appreciate the peculiarities of arrangement which are presented by the *bloodvessels* of the nervous centres. In the spinal cord, but still more markedly in the brain, there is this notable peculiarity of vascular arrangement—that particular districts, or "territories," as it is the fashion to call them, are nourished by systems of bloodvessels which are comparatively independent of the vascular systems of even neighbouring territories; and this anatomical fact has one immediately intelligible consequence—viz., that spreading or diffuse inflammations of the nervous substance do not arise from merely local causes. A true inflammation of brain-matter, for example, is occasionally produced from traumatic causes, as where the skull has been fractured and the brain itself lacerated; but the inflammation—in those cases which survive long enough for us to detect the process—has a very distinct tendency to limit itself to a small area, and is thus in remarkable contrast with inflammations of spontaneous (that is to say, internal) origin, which attack the pia mater or immediate covering membrane of the brain: here there is an immense tract of vessels all in communication with each other, and the result is a corresponding diffusion of the inflammatory process, which may spread, for instance, over the whole convexity of the hemispheres, or over the whole base of the brain, and into the Sylvian fissure. The latter case is illustrated by acute hydrocephalus, or, as it is now more generally called, "tubercular meningitis"—an inflammatory disease for the most part confined to childhood, always dependent upon the presence of true grey or miliary tubercle, and possessing a melancholy interest from the fact that it is probably a necessarily fatal disorder; at any rate, there is no trustworthy evidence, at present, of the developed disease having been recovered from in a single instance.

In the *dura mater*, or tough outer membrane of the brain and spinal cord, we find again a difference: here the comparative fewness of the vessels, and the intricate interweaving of the connective-tissue bundles, do not admit so readily of an extension of the inflammatory process within the proper substance of the membrane; consequently the force of inflammation spends itself in hyperæmia and exudation of cells on the surface of the membrane, the whole giving rise to what is known as a "neo-membrane." Here, however, there is considerable self-limiting tendency; and you will see, hereafter, more especially when I come to speak of the inflammations of the cranial dura mater which often arise in the course of constitutional syphilis, how fortunate a circumstance this is—giving us time, in numerous cases, to interpose effectively with treatment, without which a fatal issue must far more frequently occur.

To return to the real nervous elements. Although we have seen that they are but rarely the primary seat of inflammatory mischief, yet they are often involved, in a secondary manner, in inflammations that commence either in the investing membranes or in the deeper processes of connective tissue which permeate the centres. I have said that inflammation of the true nervous substance, when directly produced, strongly tends to be limited—a fact which is well illustrated in the cases where the source of mischief is a wound; but it is different in the case where the nervous elements only participate secondarily in an inflammation which began in the connective tissue: here the inflammatory process may invade large tracts of nervous matter. Finally, there are certain varieties of disease, now generally admitted to be inflammatory in character, as to which there is still much doubt and dispute concerning the true point of origin of the inflammatory process: these are the affections which are connected with chronic insanity, and especially that remarkable and very fatal disease known as general paralysis of the insane. In this latter we do, undoubtedly, find an example of so-called spontaneous inflammation, chronic in form, but fatally continuous in character, spreading diffusely through a large tract of grey nervous matter—namely, the cortical substance of the brain. Notwithstanding all that has been done by pathologists, however, to elucidate the morbid process, it probably will long remain uncertain whether the inflammatory movement in general paralysis really begins in the true nervous elements, or whether these are only secondarily affected, the process beginning in the connective-tissue elements.

If the true nervous elements are but rarely the primary seat of *inflammatory* mischief, still less are they liable to give origin to growths of new formation; the whole class of tumours, in their early stages, may be said to completely avoid the true nervous elements, though they may come to infringe upon, and even utterly destroy them, in the end. The three sources from which tumours in the nervous centres may be derived are (*a*) the free surfaces of the dura mater and arachnoid (e.g., Pacchionian granulations, sarcoma of the dura mater at the base of the brain, myxoma and psammoma of the spinal dura mater); (*b*) from the sheaths of the vessels (e.g., *diffuse* tubercle, syphilitic gumma, simple carcinoma of the brain, cholesteatoma, mucoid epithelial cancer, mucoid papilloma, &c.); and (*c*) from the neuroglia (e.g., glioma and solitary tuberculous tumour). Most of these are, doubtless, mere names to you at present; at any rate, to those of you who now attend these lectures for the first time; but the general nature of these new formations will be fully explained to you by my colleague, Dr. Lee, in his pathological lectures now commencing, before I shall have any occasion to speak of their individual occurrence as diseases of the nervous system. I merely ask you now to take note of the fact of their distribution in groups, according to the different sources of origin just mentioned.

* I need hardly say that the old figment of the *arachnoid* as a separate membrane, forming a true serous sac, is now discarded.

4. We have hitherto been speaking of peculiarities of the nervous system (especially as regards its essential tissues) which, in respect of morbid tendencies, are rather negative than positive; that is to say, they indicate reasons for the comparative *infrequency* of the forms of disease, except syphilis and tubercle, which have been enumerated. In the present and the three following paragraphs of this lecture I shall dwell, on the contrary, on varieties of disease which are exceedingly frequent (from structural reasons which are obvious), which at once engage the true nervous elements, and which make up more than nine-tenths of the nervous disorders which you will meet with in actual practice. The most common of these, probably, is atrophy directly produced by interrupted circulation; and of this I shall speak first.

I need not entertain or puzzle you now with discussions which are common enough among pathologists, but are not very profitable, as to the exact degree of vital delicacy that belongs to nerve-cells, as contrasted with other cells. You need at present only know that nerve-cells, as grouped in the grey matter of the brain and spinal cord, require an exceedingly copious and elaborate blood-supply, the smallest interruption of which, unless it be very brief, is sure to lead to devitalisation of a portion of nerve-tissue. I have already mentioned to you the peculiar localised distribution of the blood-supply which makes individual districts of the nerve-centres dependent entirely for their nutrition upon individual sets of vessels; and I can give you a typical example in the case of the middle cerebral artery, which, as you know, supplies the very large and important brain-district which borders on the Sylvian fissure. A large number of the most serious cases of brain-softening, with consequent paralysis, are due to interruptions, of one kind or another, of the current of blood through this vessel; and it happens that among these lesions are included the majority of those very interesting cases of so-called "aphasia," in which the power of speech is lost or greatly interfered with, without any loss of the power of articulation and without any loss of mental ideas.

The interruption of circulation which brings about starvation of a piece of nerve-centre, and the consequent processes which I shall have to describe to you hereafter under the heading of "Softening," may occur in various ways. One of the commonest is obstruction by embolus, in which a piece of fibrinous or other tough matter is brought with the current of the circulation into a brain-vessel, which it plugs up; this happens very often in cases of rheumatic disease of the heart, a portion of fibrinous matter being detached from a valve and driven into the circulation, thus coming to occlude a cerebral artery. Another very common cause is the extreme development of that change of the arteries which occurs naturally in the decline of life, and by which they lose their elasticity and are converted into rigid tubes; this condition of the cerebral arteries, again, may bring about the starvation and softening of brain-tissue in three or four different ways, all of which will be described to you hereafter. Other sources of interrupted blood-supply are to be found in mechanical pressure on the vessels, either by tumours or by inflammatory or œdematous effusions, or (far more commonly) by effused blood from hæmorrhages. In one or other of these numerous fashions is brought about that starvation of tissue which is the origin of the majority of cases of cerebral softening, which, again, is the direct source of a very large share of the cases of serious or fatal paralysis which are met with in practice. (I can only spare time to say, in a mere parenthesis, that the idea that inflammation of the brain-substance is, in any but the rarest cases, the direct source of softening, has, in my judgment, been completely disproved by recent researches. The whole subject will be discussed in its proper place.)

5. Another kind of morbid proclivity of the nervous centres, arising out of natural structure and of ordinary vital processes, is the tendency to hæmorrhage of every kind and degree. The vascular system of the brain is very copious; the arteries, though carrying much blood, are very thin; the senile degenerative process can very readily render both arteries and capillaries brittle; the arteries of the brain are exceedingly prone to the formation of minute aneurisms, which may at any moment burst; finally, the nature of the skull, as an almost rigidly closed cavity, permits but small readjustment of the mass of blood. And hæmorrhage, which has thus such multiplied chances of occurring, may produce any amount of mischief, from the most trifling up to the gravest. In the minute punctated form it may either cause no perceptible damage at all, or it may cause mechanical obstruction of capillaries with consequent softening of starved tissue, or inflammation and consequent softening. Occurring from the rupture of a vessel, hæmorrhage, according to its amount, will tear up and compress surrounding tissue, suppressing its functions for the time, and causing perhaps (if the patient survives the first mischief) great irritation, or even inflammation, of the injured tissue. Often it is rapidly fatal, either from its large amount causing great general pressure, or because, though small perhaps in quantity, it lacerates or compresses a vital portion of the centres.

6. The next important peculiarity of the nervous centres is their proclivity towards a peculiar atrophy which is known as grey degeneration; and is either preceded or (far more commonly) not preceded by an inflammatory process. Non-inflammatory grey degeneration is the cause of a variety of grave disorders, of which the most interesting is the typical locomotor ataxy. The grey degenerations are by no means so numerous as are the instances of hæmorrhage, or of softening from starvation of blood-supply; but they are a very important class.

7. Under another head are included the strange and multifarious tendencies of the nervous system to exhibit serious and occasionally even fatal disorders, either without the occurrence of any organic change that we can recognise on dissection, or with only such evidences as point to mere vascular disturbance in the direction of anæmia or of hyperæmia. These are the so-called functional disorders of the nervous system which we constantly meet with in practice, and which cause us the greatest anxiety and trouble. They are of every degree of importance, from a trivial hysteric affection to the worst forms of epilepsy. Understand, however, that if, for the sake of convenience, one still sometimes employs the word "functional," it does not imply that there is no existing organic cause for the disease, but simply that we have not yet discovered such a cause. Day by day we are finding out fresh organic causes of disease where none were previously known; and the progress perhaps of even a very few years may altogether abolish the class of so-called "functional" nervous diseases; but at present it is scarcely possible to do without the occasional use of the word.

8. Finally, the nervous system is distinguished beyond all other parts of the organism by its tendency to transmit its lesions and its morbid biases of function, by inheritance, to succeeding generations. The subject of heredity in nervous disease is, however, so vast that from sheer lack of time I am compelled to forego any general discussion of it; only, under the heading of individual diseases it will be impossible to avoid frequent references to it as a factor of almost unequalled importance in the production of serious and intractable nervous disorder.

I have now presented you with a rough, but I hope sufficient sketch, which is intended to give you a bird's-eye view of the general subject of nervous diseases; showing you with fair accuracy the relative frequency and importance of the chief varieties.

In my next lecture I shall begin the study of individual nervous diseases, commencing with the very large class in which either the seat of the disease is not known, or else the disorder is so generalised that we cannot refer it either to the brain, the spinal cord, or the nerves.

BEQUESTS, &C., TO MEDICAL CHARITIES.—Mr. Joshua Satterfield, of Alderley, bequeathed £10,000, free of legacy duty, to endow or benefit a Convalescent Home in the neighbourhood of Manchester. The National Orthopædic Hospital, Great Portland-street, has received a second £1000 from "E. D." The executors of the will of Mr. Thomas Dutton have, in the exercise of a discretionary power, given £450 to the endowment fund of the Blackburn Infirmary. The Infirmary for Epilepsy and Paralysis has received a second £1000 from "G.S." Mr. Edward Caddick has given a second £200 to the endowment fund of the West Bromwich District Hospital. The General Hospital, Birmingham, has received £200, under the will of Mr. G. Smith. G. S. Rotherham, Esq., has given £100 towards the funds of the Convalescent Home, Stillorgan, near Dublin.

Introductory Address

DELIVERED IN

NETLEY HOSPITAL,

At the Opening of the Winter Session, 1872–3,

BY JOHN DENIS MACDONALD, M.D., F.R.S.,

ASSISTANT PROFESSOR OF NAVAL HYGIENE.

INSPECTOR-GENERAL INNES, PROFESSORS, AND GENTLEMEN,—It has fallen to my lot to deliver the opening address of this winter session of the Netley Medical School; and while I am quite conscious of the responsibility associated with the duty, I may be also permitted to acknowledge the honour thus conferred upon me by the desire of my colleagues, affording, as it does, a pleasing evidence of that cordiality of feeling which has happily been so warmly fostered between the medical branches of the naval and military services, through the hearty co-operation of Sir Alexander Armstrong, K.C.B., &c., and Sir Galbraith Logan, K.C.B., the respective heads of these departments. With singleness of purpose, therefore, we should espouse the cause of science, and use our best efforts to acquire such information as shall enable us to mitigate human suffering, and reduce the bills of mortality amongst our brave soldiers and sailors, both in the mild reign of peace and in the devastation of war. In the furtherance of these noble objects we, as it were, receive Æsculapius into the number of the gods; and this great *beau ideal* should inspire in us one common interest, as the fellow-servants of a beloved Queen, and a country for whose weal and tranquillity we should be prepared to make every sacrifice at the call of duty.

The acquisition of a sufficient amount of professional knowledge to enable the possessor to enrol his name as a physician or surgeon in the lists of the chartered bodies of the United Kingdom has long been found to fall short of all that is requisite to constitute a good military or naval surgeon. In the first place, he is called upon to practise medicine and surgery indiscriminately, and the features of both these branches presented to the medical officer in the public services are so distinctive, as compared with the experiences of the civil practitioner, as to require special study, which is provided for in the lecture-theatre and in the wards of this fine institution, under the teaching of Professors Longmore and Maclean. Nor can we be surprised that pathology should also assume, under these circumstances, a special character; and with it must be included a more practical acquaintance with the use and working of the microscope than can possibly be taught in the ordinary schools of medicine. As essentially connected with this branch, the post-mortem examinations, conducted with such scrupulous care and system by Professor Aitken, you will find to be of the greatest practical utility when you are called upon to investigate for yourselves those morbid conditions which will, unfortunately, have baffled your skill in the future exercise of your profession.

The study of the great and growing science of hygiene, amply provided for in this school, will also confer upon you a lasting benefit when you are thrown upon your own resources under circumstances demanding such knowledge; and if you do but use your privileges in the precise manner designed by Professor Parkes, you will be placed far beyond the necessity of appealing to others for information which a well-grounded scientific education should enable you to obtain for yourselves, and this with very simple and inexpensive apparatus. Of the great things which the comparatively recent adoption of hygienic principles has effected for the British forces in India, and indeed for the population at large, you will hear from the lips of the Professor of Military Medicine, through whose intimate acquaintance with that vast country he is enabled to adduce all the more important facts and statistics bearing upon the subject. And I may add, that you will be materially assisted by reference to the fine relief map of India which enriches this theatre.

All science is progressive, like the evolution of the intellect itself. Knowledge is cumulative; while wisdom, or the faculty by which knowledge is acquired and rightly used, is a natural endowment, with a capability of progress varying in different individuals.

The growth of wisdom and knowledge should proceed *pari passu*; in which case judgment will usually be formed from sound premises, and every phase of thought will be crowded with illustrative conceptions. But, on the other hand, when knowledge has been kept in the background, or, as it were, outgrown by wisdom, there must necessarily be a paucity of facts in the mental store, although what is known as common sense may still be largely in exercise. Lastly, if knowledge has outstripped wisdom, the memory will in general be very retentive; so that cases in point, so to speak, may be readily recalled, but origination is always comparatively feeble.

Having thus far shown the bold points of difference between knowledge and wisdom, we may similarly place art and science in antithesis and trace their mutual dependence.

The art of doing anything may with equal propriety be said to be the method of doing it; thus we see the possibility of accumulating method upon method, like fact upon fact, as in the case of knowledge. But science wields the principles by which existing methods are accounted for or explained, and new methods are suggested and brought to perfection.

The development of art and science should also proceed *pari passu*, under which circumstances the highest degree of perfection in matters of taste and industry is attained. But should science be in advance of art, it will become abstract and visionary, finding insufficient expression in useful or pleasing application. Again, we know that art may actually extend its range beyond the grasp of science, as is strikingly shown in the fine arts and music. The perfection of colouring exhibited in the works of the old masters, who knew nothing of the undulatory theory of light and the law of interference, so essential to the science of painting, is alone attributable to an intuitive *gusto*; and the extraordinary flights of the genius of Beethoven in the realms of music have eluded the most recondite principles of harmony and composition.

It may be well here to notice something of that faculty of perception and memory known as impressibility, the possession of which in a liberal degree is so important to students of every description. The exercise of this faculty is well seen in the facility with which young persons commit poetry and lengthy recitations to memory; but as life advances this power would seem gradually to lose its sharpness and brilliancy, until finally in old age it is nearly obliterated, and temporary perception alone takes the place of perception and impression combined, as in the case of younger individuals. It is thus that aged persons are able to recall with great fidelity even the most trivial scenes and occurrences of their childhood; while the things of yesterday, however momentous, find but an uncertain place in their memory, or are totally forgotten.

The great persistency of early impressions, as well as the absorbing power, so to speak, of the young capacity, is well known to everybody. Lord Brougham has somewhere remarked, I think in his beautiful essay on Instinct and Reason, that, relatively, more facts and materials are laid up in the human mind between the ages of five and seven than during the whole subsequent period of natural life. The philosophy of this subject is of considerable moment to us, for we find that when our impressibility is weak it will demand an additional exercise of the faculty of attention, which, as it were, softens the congealing wax, rendering it more susceptible of impression. But, in its turn, the attention must be aroused by some inducement—either a natural taste for the study, or the sense of necessity associated with it. It is usually a happy case where both these incentives work together, and, as far as you are concerned, high numbers will follow in their wake; but if they be not duly felt, and a culpable listlessness is permitted to supplant them, the result may be perceived without further description.

The ultimate facts of human science are only the boundary lines of Divine art. Science Divine of course is that which is only known to the great Author of nature. By Divine artifice it has been arranged, using the words of the im-

mortal Newton, that "the particles of matter attract each other with forces directly proportional to their masses, and inversely proportional to the squares of their distances"; but this is perhaps the grandest of all generalisations of human science, sufficient to account for a golden chain of natural phenomena, from the sublime movements of the orbs of heaven to the rounding of a dew-drop. Again, by Divine artifice it has been so planned that the action of the contents of a cell upon the contents of a cell shall set on foot that exquisitely softened sequence of changes which we observe in the evolution of the embryo; but human science is only permitted to witness the conditions under which these changes take place, and patiently note the order of their occurrence. The Bible, which, according to Bacon, contains the germs of all philosophy, affords us, in the language of king David, a most graphic allusion to this subject. In the 139th Psalm (ver. 12–16) he says—"For my reins are thine: thou hast covered me in my mother's womb. I will give thanks unto thee, for I am fearfully and wonderfully made: marvellous are thy works, and that my soul knoweth right well. My bones are not hid from thee; though I be made secretly, and fashioned beneath in the earth. Thine eyes did see my substance, yet being imperfect; and in thy book were all my members written, which day by day were fashioned, when as yet there was none of them."

Though we much vaunt our recently acquired knowledge of the detail of the process of development, the Psalmist's summary is, in effect, all that we know about it. It is a bad principle, however, to set any theoretical limits to scientific investigation, for, as you are doubtless aware, many of the ultimate facts, like the reputed chemical elements of bygone years, have since been decompounded into others by experimental research, and the beautiful doctrine of the metamorphosis of the leaf was born in the poetic fancy of Goethe before it became the subject of practical demonstration.

The several departments of Medicine abound with interesting facts, many of which are yet without satisfactory explanation. I shall at present only refer to the subject of therapeutics, and to the specific action of medicines in particular.

If we exhibit the potassio-tartrate of antimony by the mouth, the rectum, or by hypodermic injection, the ultimate effects are sure to be nausea and vomiting; but though the cause of this specific action has not yet been made known to us, problems quite as difficult have already met with a simple solution. In experimenting with this drug on the horse, the nausea is evidently produced, but the emesis is rendered difficult or impossible by an anatomical peculiarity of the cardiac orifice.

Sulphuretted hydrogen, which, except in very large quantities, causes comparatively little inconvenience to man, is rapidly fatal to dogs; and jalap, which reputedly exerts no action on the colon of dogs, proves to be a drastic purgative to the human subject. On the other hand, we know that certain organs of the body act as emunctories, by which impurities or foreign matters are removed from the blood; and the specific action of numerous agents may be thus, in some measure, explained, being actually present in the blood carried to such emunctories. In this way, for example, we may account for the stimulating effect of copaiba and cubebs on the urinary system, and of squills and other expectorants on the bronchial mucous membrane, through which they are actually eliminated after having entered the blood.

It is much to be feared that we do not attach sufficient importance to the necessity of a competent acquaintance with the materia medica and the therapeutic action of remedies in our practice. It is quite possible—nay, too often the fact—that a physician, well informed in other particulars, may approach the bedside of a patient and form an excellent diagnosis of the case, but feel himself deplorably wanting in the method of conducting the treatment, from his ignorance of therapeutics and the art of prescribing. Moreover, when he commits his confused ideas to paper, the chemist who makes up the prescription, and whose experience in this way is usually sufficiently extended, may notice either the ineffective or excessive quantities of the ingredients, or the mixture of incompatibles. A sure sign of deficiency on the part of the prescriber is seen in the multifarious recipe, consisting of a melange of numerous drugs, each having the reputation of fulfilling the indications, so called. Again, it is notorious that many of the forms of active disease, such as pleuritis or pneumonia, are more likely to be conducted to a favourable issue in the hands of an experienced general practitioner than when committed to the care of some profound but pure pathologists, who are so wrapped up with the morbid conditions exhibiting themselves in the course of the malady as to regard the little amenities of therapeutics as quite beneath their notice. An accomplished physician, however, is always acquainted with the best means of meeting every difficulty, keeping pace with the light of the age in which he lives. And, depend upon it, you cannot hope otherwise to acquit yourselves creditably in the practice of your profession, or shed that lustre upon it, which should be the aim of every true follower of Æsculapius.

Having thus far dealt with the importance of therapeutics, which should not be altogether excluded by your other various duties, I shall make reference to some matters of interest, with the view of pointing out to you the desirability of taking up some special pursuit, though possibly only collaterally connected with your profession, but which might employ your mind in hours of leisure with benefit to yourselves and the cause of science. "Travellers see strange things," and golden opportunities, too often unheeded, will now and then crop up in the path of duty in foreign lands. It is much to be regretted that the training of medical officers, which should pre-eminently fit them for original research in all the departments of natural science, is comparatively so unfruitful. I would, nevertheless, fain indulge in the hope that at least some of you will take the hint, and carry it out with that zeal which merits recognition, when you have selected the subject most congenial to your fancy and the development of any natural endowments you may possess.

There is some encouragement, however, in the excellent remarks of Dr. Johnston, in the preface to his work on the British Zoophytes. Referring to this subject, "it is gratifying," he says, "that most of my predecessors in this field of inquiry were members of the medical profession. How largely natural science in all its branches has been indebted to this body is too notorious to be insisted on; but it has been less noticed that the men who thus occupied themselves in acquiring and forwarding a knowledge which many may deem purely ornamental, were the same individuals who were most engaged in the active duties of their profession, and the most instrumental to its advance. Boerhaave, Cullen, Hunter, Darwin, and Jenner, are very memorable instances of this fact, which is illustrated with lesser brilliancy in Lister, Sloane, Mead, Fothergill, Lettsom, Sims, Maton, in Withering of Birmingham, in Percival and Hull of Manchester, in Pultney of Dorset, Stokes of Chesterfield, and numerous others, whose names will occur to everyone conversant with the history of medicine. This is only what, on reflection, might have been anticipated, for that very activity of mind and perspicacity which originated and upheld their sagacity and success as practitioners, was sure to carry them far in whatever side-path the natural bent of their taste led them for the occupation and entertainment of the leisure hours which the busiest must have, or may create. Idleness has no leisure. Were it necessary I might safely shelter myself under the cover of these exemplars, in the contemplation of whose lives I have often nurtured my love to my profession—and hence, perhaps, an ambition to follow them even at a far distance; but there never was a time when it was necessary to vindicate to any but the ignorant the erratic excursions of medical men into the fields of science and literature, for assuredly the rank which the profession as a body has taken and holds in public estimation depends for its patent, in part at least, on the scientific and literary character of its professors; and by continuing to support that character they will best secure it from the vulgarity of a common mercature, or the selfishness of a venal quackery."

It has puzzled many a philosopher to account for the solution of a lump of sugar in a tumbler of water, though everybody admits the fact from having repeatedly witnessed it. For the same reason we also admit that two fluids, a fluid and a gas, or two gases merely brought together at first, will ultimately commingle so as to form a homogeneous result, through the exercise of attractive force, which is ever restless until a state of equilibrium is established. These

facts, though very simple in themselves, form the common basis of (1) the law of the diffusion of gases, (2) the osmosis of fluids, and (3) the dialysis of crystalloidal substances; the same affinities being exercised either with or without the interposition of a medium. The first law manifests itself most strikingly in the preservation of the same formula of composition of the atmosphere all over the globe; the second is perhaps best seen in the circulation of the sap in plants; and the third in connexion with the blood, deposition, and absorption in animals. The three great laws are each brought into activity under special conditions, and all pressed into the service of nature to fulfil by physical agency certain offices in the organic world which were formerly supposed to be of a purely vital character.

Time would fail us in the attempt to give even a most cursory sketch of the numerous purposes subserved by these laws, but the subject of dialysis in particular, as applied to the physiology of animals, may profitably engage our attention for a short period.

1. The materials of which animal bodies are composed are either crystallisable or non-crystallisable, respectively named crystalloidal and colloidal.

2. The crystalloidal substances are usually found in the fluid state, scarcely ever assuming the crystalline form except under morbific conditions; and they will exhibit this tendency in the inverse ratio of their solubility. Thus we find crystals of cholesterine in atheromatous deposits, carbonate of lime in the coats of the minute cerebral arteries, and lithate of soda in gouty concretions, which owe their segregation and subsequent persistency to the absorption of the water with which they were originally thrown out from the capillary vessels.

3. Colloidal substances, on the other hand, are either found in the liquid and plastic state for the growth and repair of the tissues, or solid in the constitution of those tissues: albumen, fibrine, and gelatine in the muscles; albumen particularly in the brain and nerves; and gelatine in connective tissue, ligament, and bone.

4. In the vital fluid blood, as Dr. Richardson has pointed out, both crystalloidal and colloidal bodies are homogeneously blended in watery solution. The latter components take up water from the former; and so continually yield it up again by transpiration that a regulated supply of water is necessary to keep up this cycle of actions, and preserve the fluidity of the circulating mass.

The late Professor Graham first demonstrated that crystalloidal substances will pass through a colloidal membrane floating on water, and diffuse themselves through the latter; while colloidal substances, also present, are left behind on the dialysing membrane. In this way, as you are doubtless aware, the poisonous alkaloids may be isolated from the other contents of the stomach, and identified by their appropriate tests in medico-legal investigations.

Now, the walls of the bloodvessels are literally dialysing membranes; and the facts to which I have alluded shed a new and brilliant light upon the physiology of absorption, nutrition, and secretion well worthy of further experimental inquiry. It will, moreover, be a very important discovery if the extraordinary pseudo-volitional movements exhibited by certain minute algals, more particularly by the Diatomaceæ and Oscillatoridæ, are shown to be due to the play of the same force; demonstrating also an intermittency in the phenomena connected with assimilation and decay, in some measure comparable to that which we observe in the circulatory and respiratory functions of animals.

The first appearance of the germinal vesicle and spot in the ovum, its final dissolution, and the substitution of two new cells in its stead, afford us the earliest evidence of that intermittency of action or interchange of building up and breaking down which is to all living things an essential condition of existence. In further illustration of the principle which I am advocating, I wish to refer you to the anatomy and physiology of some few members of the invertebrate division of animals. [Diagrams referred to.]

In the naked-eyed Medusæ four great vessels radiate from the central somatic cavity to the corresponding generative organs, to and from which parts respectively the current of blood intermittingly flows. Thus the materials of growth and development are conveyed to the ovaries one moment, while the products of decay are carried back the moment following. This is well seen in the genus Thaumantias.

The circulation in the brachiapod (Lingula, for example) is even still more remarkable, for, although it is also effected by ciliary motion, the outgoing and returning currents course along the opposite walls of the same vascular channels, and are, therefore, continuous.

The first unequivocal heart occurring in that well-marked series of beings which culminates in the true Mollusca is found in the Tunicata. But here, as the circulatory system is in effect single, without any valvular mechanism, the whole round of the circulation sweeps alternately in opposite directions: thus, the vessels conveying blood to a particular part one moment will carry it back the next, when the course of the circulation is reversed. It is obvious, therefore, that each vessel must play the part of artery and vein successively, affording another good instance of intermittency in those functions connected with the supply of new and the removal of old material.

A perfect heart, with a receptive and propulsive chamber, furnished with valves, so arranged as to determine an irreversible path to the circulation, and the persistent distinctiveness of arteries and veins, distinguish the Mollusca proper from the Cœlenterata and Molluscoida, to whose blood vascular system I have already alluded.....

Studies of every description are either fragmentary, departmental, or general. The isolated researches and discoveries of individuals, however extended or restricted their information may be in other matters, are taken up and applied by those to whose special branch they may belong. The labours of these latter persons are brought together and arranged by the students of departments still wider, and so the work proceeds, step by step, until all the materials are finally included in one complete system. Thus we find in the first class those who conduct original researches and discover facts; in the second, those who collect and arrange the facts so discovered; and in the third, those who study the facts so arranged, and then group them into a consistent whole. All these workers are useful and even necessary in their way, having quite enough to occupy their time in their respective pursuits. Minute particulars are thus the rootlets of broad principles; and as we have, in the language of the old song, "but span long, span long lives," a division of labour is not only unavoidable, but absolutely essential, to the advancement of science.

Much depends upon our own natural tastes and predilections, much also upon our early associations or surroundings, and subsequent advantages and opportunities; but "where there is a will there is a way," and genuine talent will surmount every obstacle. Hogarth, the great moralist painter, says of himself: "I was born in the city of London, November 10th, 1697. My father's pen, like that of many authors, did not enable him to do more than put me in a way of shifting for myself. As I had naturally a good eye and a fondness for drawing, shows of all sorts gave me uncommon pleasure when an infant, and mimicry, common to all children, was remarkable in me. An early access to a neighbouring painter drew my attention from play, and I was at every possible opportunity employed in making drawings. I picked up an acquaintance of the same turn, and soon learnt to draw the alphabet with great correctness. My exercises when at school were more remarkable for the ornaments which adorned them than for the exercise itself. In the former I soon found that the blockheads with better memories could much surpass me, but for the latter I was particularly distinguished."

In the family history of Raphael we find no less than five generations of painters. He, however, not only far excelled them all, but was also enabled in his own time to profit by the glorious revolution in painting effected by Leonardo da Vinci and Michael Angelo, who swept away the ancient conventionalisms and rules of art, so called, which had up to this period set pure nature at defiance. Nevertheless, the works of Raphael were, at least to some extent, imbued with the principles of his master, Pietro Vanneri, or Il Perugino, who was still an adherent to the old school.

As both the father and the husband of Michael Angelo's nurse were stonemasons, he often remarked, in after-life, that he had imbibed his taste for sculpture with his nurse's milk.

The father of Mozart was a musician of considerable talent, who acted as sub-conductor in the Chapel Royal at Salzburg. The surroundings of the infancy of the great composer were of a musical character. His sister had been

daily receiving instructions in music from her father, who, observing the fixed attention of young Mozart on these occasions and other indications of his musical genius, set him to the study of the harpsichord when only in his fourth year.

The father of Pascal used every effort to dissuade his son from the study of mathematics, and even forbade him to speak of the subject in his presence; but genius asserted its right despite of opposition. Young Pascal studied in secret, drawing his figures and problems on the floor of his room, and at the age of sixteen produced a work on conic sections of such intrinsic merit as to strike the more mature philosopher, Descartes, with perfect wonder and amazement.

Instances of this kind might be multiplied to almost any extent; but those I have adduced may suffice to give you some encouragement to enter upon your studies with a good heart, and that zeal which is the earnest of success.

The facilities and advantages afforded to you in this institution cannot be too warmly embraced while your opportunity lasts, being such, I might truly say, as were little dreamt of in the school days of your teachers.

I have now only to return you my best thanks for the kind attention you have given me while delivering this address; and I may be permitted to say for my colleagues, the professors of this school, that, while they heartily wish you every success in your labours, they feel that you must work with them in a teachable spirit, and that your own personal effort must supplement theirs, or the helping hand will have been extended to you in vain. Let us hope, therefore, that your prosperous career will fully requite all solicitude for your welfare; and you may rest assured that the eye of sympathy, which is never devoid of affectionate regard, will trace your footsteps with interest while they continue to fall in that path which leads to eminence in your profession, and will enable you to reflect credit upon your preceptors, and that particular arm of Her Majesty's service to which you may have the honour to belong.

CLINICAL REMARKS
ON
CHLOROFORM AND ITS ADMINISTRATION.*

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THE anæsthetics are by far the most potent class of drugs with which the medical practitioner has to deal. In the hands of the skilful and intelligent they are capable of bringing ease to sufferers of all kinds; but their employment is fraught with imminent danger in the hands of the ignorant, and may bring death to the patient and disgrace to the doctor.

No man can be a good anæsthetist without practice. Practice in the administration of anæsthetics, as in everything else, makes perfect; and in proof of this I may mention that those gentlemen who have made a special study of this subject have been remarkably free from "fatal cases." Dr. Snow had but one fatal case during his whole career, and Sir James Simpson, during more than twenty years' constant employment of chloroform, never had a fatal case till a few months before his death. These facts speak for themselves; but you must not suppose that I am advocating the entrusting of anæsthetisation to specialists who should make it their peculiar study; on the contrary, I hold that every qualified medical man, before starting in practice, should endeavour to make himself conversant with the practical handling of this class of remedies, and when called upon, as he may be at any minute, to anæsthetise a patient, he should be able to bring to the task that confidence and fearlessness which habit alone can give. Knowing how impossible it is for every student to obtain a practical knowledge of anæsthetics, I have obtained the permission of the authorities here to address you on the subject, that at least those who wish may have a theoretical knowledge; and I hope in the course of the few words which I have to say to be able to point out to you how to administer this class of remedies with safety, and to teach you how you may best avoid those melancholy mishaps which have been too frequently recorded of late in the medical and other journals.

A few words on the History of Anæsthetics will not, I think, be unprofitable. To us whose medical recollections do not extend very far it is a matter of wonder that capital operations could be performed at all in what may be called the pre-anæsthetic period. A few years back I met a middle-aged sailor whose thigh had been amputated in the Black Sea, during the Crimean war, without chloroform. I inquired of him if the pain were not something very awful; but he assured me that in his case the suffering was not very intense, "for you see, Sir," he said, "they gave me the best part of a bottle of rum before they began, and I didn't find much of it." In point of fact, they first made him drunk, and then operated. There is no doubt that before the introduction of chloroform it was very commonly the custom to give various narcotics and stimulants before submitting patients to the knife. Dioscorides, a writer on materia medica who lived A.D. 50, says that "decoction of mandragora is to be given to those who require to be cut or cauterised, when, being thrown into a deep sleep, they do not feel any pain." This may be regarded as the first mention of anæsthetics, and there is abundant proof that between A.D. 50 and A.D. 1846 this rough and imperfect form of anæsthetisation was frequently had recourse to. About the year 1798 Sir Humphry Davy discovered the anæsthetic properties of nitrous oxide; and in 1844 Dr. Horace Wells, of Hartford, Con., U.S., had a tooth removed without pain whilst under its influence. In 1818 an article appeared in the *Quarterly Journal of Science and Arts* in which the resemblance between the effects of the vapour of ether and nitrous oxide is pointed out. In September, 1846, Dr. Morton, of Boston, U.S., drew a tooth while the patient was under the influence of ether vapour; and in the following month Dr. Warren, of Boston, removed a large and very vascular tumour from the lower jaw, the patient being anæsthetised. Anæsthetisation had its origin in Boston, U.S.

In December, 1846, ether was first used in this country by Mr. Robinson, a dentist of Gower-street, who first administered the ether and then pulled the tooth. The first operation of magnitude which was performed under ether in this country was an amputation of the thigh by Liston in the theatre of University College Hospital, on Dec. 21st, 1846. I have had a description of what took place from an eye-witness. Liston informed the students that they were going to try a "Yankee dodge for making a man insensible to pain, and that Mr. Squire, the chemist, was going to administer ether." While the etherisation was progressing, Liston stood in a semi-impatient and incredulous way, balancing his knife and playing with its point. At last came the signal "He is ready, Sir," and in another instant almost the thigh was off, the patient not taking the least notice of the operation. Liston was astonished, as well he might be, and summed up his opinion of etherisation in these words, "Good God! why it's better than mesmerism!"

In 1847 Jacob Bell and Sir William Lawrence used chloric ether; and in November of the same year Sir Jas. Simpson, at the suggestion of Mr. Waldie, of Liverpool, was led to try chloroform as an anæsthetic, and with what result you all know.

When first introduced, the anæsthetics met with considerable opposition on scientific and moral grounds. For instance, it was said that ether dissolved the red blood corpuscles and diminished the fluidity of the blood, and that secondary hæmorrhage was a natural consequence of its employment. It was said also to cause pyæmia, to cause uterine hæmorrhage and abortions, inflammation of the lungs, and madness. Again, it was opposed on moral grounds because anæsthetisation was said to be merely a state of dead-drunkenness; and one party opposed its employment in midwifery on religious grounds because it was said to be antagonistic to the sixteenth verse of the third chapter of Genesis, which is as follows—"Unto the woman he said, I will greatly multiply thy sorrow and thy concep-

* These remarks were written when it was one of the writer's duties (as resident medical officer at University College Hospital) to administer chloroform and to teach students how to do so. Believing in the necessity of giving students proper and systematic instruction in the management of this highly dangerous class of medicines, the above lecture was prepared with that object. It has never been delivered (in consequence of the writer having been called to other duties), but there seems no reason why its original form should be altered.

tion; in sorrow thou shalt bring forth children." These prejudices are things of the past, and at present we have nothing to do with them.

We will now review the different anæsthetic agents, beginning with that which is most commonly in use in this country—chloroform.

With its preparation we have nothing to do. Having bought our chloroform, however, we ought to be able to tell if it is pure and fit for use. Pure chloroform is colourless; it leaves no odour nor stain, after evaporation, on the skin; is not discoloured by agitation with sulphuric acid; and water which has been well shaken with it gives no precipitate when treated with a solution of nitrate of silver. The adulterations are not, as a rule, dangerous; the most common, probably, is alcohol, which lowers the specific gravity, but is perfectly harmless. The presence of free chlorine or hydrochloric acid makes the chloroform irrespirable, and you get great coughing induced by its administration. The specific gravity of chloroform at 0° C. is 1·525.

I shall now briefly describe the varying condition of a patient from the time of commencing inhalation till complete anæsthesia is produced. No two patients behave in precisely the same manner under chloroform. The patient who is anticipating a surgical operation is usually more or less nervous and subdued in manner. On first inhaling there is usually some sign of discomfort—screwing up of the face, winking of the eyes, or perhaps coughing or movements of swallowing. All this usually passes off in a very few seconds, and then we see the first constitutional effect of the chloroform in the loss of all nervousness or restraint: the eyes are opened, and the patient looks about, and often begins to talk perfectly rationally and distinctly, generally about the operation, or those who are to assist at it. His talking, from being sensible and coherent, gradually becomes nonsensical and incoherent, and the patient may laugh, and then perhaps begins to make excited muscular movements, which gradually may merge into excited struggling, which may require the assistance of several persons to restrain. At this time there not unfrequently occurs a state of muscular rigidity, totally distinct from the struggling to which I would particularly direct your attention, and of which we shall have more to say hereafter. His state of muscular excitement ceases gradually, but may do so with remarkable abruptness. There is a little incoherent muttering, and the patient falls into a state resembling a profound drunken slumber, with all his muscles perfectly lax. The slumber may pass into the more profound slumber of death.

So much for his mental and muscular condition. I have taken them together because the movements of the muscles would seem to be (excepting the rigid condition) the result of the mental state. Sensibility is very soon diminished. Slight operations, such as do not require the patient to be perfectly motionless, may be performed before the condition of complete anæsthesia is induced. The patient may holla out, or try to withdraw the part being operated on; but such hollaing and movement are purely reflex in character; they are not to be taken as any indication that the patient has actually felt pain; they are not usually accompanied by any agonised expression of countenance; in some cases even the patient will grin and laugh, although his movements and cries would indicate that he feels; and on recovery he will have no recollection of the operation. As a rule, the patient is fit for any operation when we can touch the ocular conjunctiva or margin of the eyelids without inducing winking. In operations about the anus or genitals, however, this is no criterion that the patient will not move, as the skin of these parts would seem to be more sensitive than the ocular conjunctiva. Before pronouncing the patient ready for these latter operations we should ascertain, as recommended by Dr. Squarey, that the pupil is no longer sensible to light. Dr. Squarey says that he has never known any patient make any movement of any kind when this condition of pupil has been induced. He also warns us that this condition of pupil is a sign that chloroform narcosis has been pushed as far as it may be with safety.

One more word as to the effect of chloroform on the muscles. At first, as we have seen, the mental condition induces an excess of muscular movement. In the stage just preceding that of complete anæsthesia, the whole of the voluntary muscles are not unfrequently in a state of fixed rigidity amounting to tonic spasm. The sterno-mastoids are firmly contracted, the head is drawn back, the limbs and thorax are motionless, the veins of the head and neck are distended, the face is dusky, the lips livid, and the ocular conjunctiva injected. That condition is occasionally followed by clonic spasm. In the stage of complete anæsthesia there is relaxation of all the voluntary muscles, the limbs can be moved in any direction, and the patient offers no resistance, and reflex movements of the voluntary muscles cannot be induced. If anæsthesia be pushed further the reflex movements of the involuntary muscles are abolished. This is first noticed in the pupil (Squarey). In some cases, especially in children, the sphincters are relaxed, and we get expulsion of urine and fæces. Next the muscles of respiration begin to fail, and, lastly, the heart itself.

The pulse is at first quickened; it then sinks to normal; and, lastly, may become slow and weak. If the patient be suffering from shock, the effect of chloroform is to improve the pulse, and, from being weak and scarcely perceptible, it may become firm and regular.

The respiration, like the pulse, is at first slightly quickened; then normal; and, lastly, slower and shallower than natural, until finally, if chloroform be carried too far, it ceases altogether. It often happens that, on first inhaling chloroform, especially in women, and more especially if they are hysterical, the respiration is very irregular; they are very reluctant to draw the breath, and, when they do, expiration (which is often accompanied by prolonged moaning) is very much in excess of inspiration. When this occurs, the patients are long in getting under the full influence of chloroform; but when at last they do succumb to its influence, the respirations become natural. During the state of tonic contraction of the voluntary muscles which I have mentioned as occasionally occurring in the advanced stage of anæsthetisation, the breath is held just so long as the tonic condition of the muscles continues. Sometimes, also, in operations about the anus and genitals, if the patient be not completely anæsthetised, the breath may be held for as much as half a minute at a time.

There are two adventitious sounds which very frequently, but by no means always, accompany anæsthetisation: one is palatal stertor; the other is laryngeal stertor. The first is ordinary snoring. It may not occur at all; it may occur (in habitual snorers) long before the patient is completely narcotised; or more usually it occurs only when anæsthetisation is complete, and may be taken as one of the signs that enough chloroform has been given.

Laryngeal stertor occurs only in the advanced stages of narcosis. It is quite a different sound to the palatal stertor. It has not the deep-toned, vibrating, familiar sound of snoring, but is a continuous higher-pitched note and distinctly laryngeal in character. You must all make yourselves familiar with it. It is always a sign of danger, and is caused by partial or complete obstruction to the passage of air through the larynx.

The countenance should always be carefully watched during chloroform inhalation. If all goes well the complexion and expression of the face remain almost unaltered to the last. We may get pallor of the face (1) if the operation is one which entails much loss of blood; (2) if the patient is about to vomit; and (3) if action of the heart is failing from the effect of the chloroform. We may get lividity of the face if the proper aeration of the blood is prevented by any cause, by tonic spasm of the muscles of respiration, or by spasm or paralysis of the larynx. In cases where complete narcotism is induced we get a little duskiness of the face naturally. M. Flourens said that nobody who saw chloroform administered once could fail to be struck by the great similitude which existed between anæsthetisation and suffocation. If this remark applied to anæsthetisation by nitrous oxide, I would allow it to pass, but as applied to chloroform it is manifestly incorrect. When chloroform narcosis is pushed far enough we have seen that the respiration becomes sluggish. This is, I think, sufficient to account for the duskiness of the face, without having recourse to the ingenious theory of Drs. Harley and Sansom (the correctness of which, however, I am not prepared to dispute), that "the common property of narcotics and anæsthetics is to diminish the energy of interchange between the constituents of the air on the one hand, and those of the blood on the other." While speak-

ing of the appearances of the face, one may mention that the secretion of saliva is often much augmented. It bubbles from the mouth, and the patient not unfrequently expectorates vigorously. In fatal cases an alteration of the countenance is mentioned.

Next, what is the effect of chloroform on the eye? We have mentioned the insensibility of the conjunctiva, and the action of the pupil. The conjunctiva is often congested when the patient is fully anæsthetised, and the small vessels are seen standing in bold relief on the white sclerotic. Next as to the pupil. In the early stages it is variable. When complete anæsthesia has been induced it is, as a rule, contracted, and the eye is turned slightly upwards as in sleep. This is not invariably the case. I have seen the pupil widely dilated during the whole of an operation, the patient being completely anæsthetised. If the patient is not very deeply narcotised, any irritation which seems capable of rousing the patient in the least degree causes dilatation of the pupil. It is said by several authorities that when chloroform narcosis has been carried too far the pupil dilates. This I have never seen. The other day I accidentally killed a rabbit with chloroform. The first thing that attracted my attention was the intensely contracted and fixed condition of the pupil. The pupil remained contracted till the rabbit died, and continued so post mortem.

(To be continued.)

REPORT OF A CASE OF CÆSAREAN SECTION.

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ON Sunday, September 15th, I was summoned by a midwife attached to the City of London Lying-in Hospital to see Maria N——, on whom she had been in attendance upwards of twenty-four hours.

On my arrival at the house, at 1.30 P.M., I learned the following particulars:—The patient was thirty-four years of age, and had been married two years and a half. This was her second pregnancy, she having aborted on the previous occasion at the third month. She was the subject of rickets, had a lateral curvature of the spine in the lower dorsal region, and a curve forwards in the lumbar region. The midwife informed me that the liquor amnii had escaped at 2 P.M. the previous day, since which time there had been but little progress in the labour, and the pains were ceasing.

Upon examination per vaginam I found that the head of the child was pressing upon the promontory of the sacrum, and could not enter the pelvis, the antero-posterior diameter of which was about one inch and a half. I saw the impossibility of relieving the patient by craniotomy. Choice, therefore, had to be made between cephalotripsy and Cæsarean section. Under these circumstances, I sought the counsel of Dr. Burchell, the surgeon-accoucheur to the hospital. Upon examining the patient he was of opinion that Cæsarean section would give the best chance to mother and child, in which I fully concurred.

In consequence of the poverty of the patient, and her not having had proper nourishment for several days, I suggested her removal to the workhouse infirmary, which was gladly acceded to by the patient and her friends.

At 4 P.M., all being in readiness, Dr. Aubery (Dr. Burchell's assistant) administered chloroform, and the patient was soon under its influence. Dr. Burchell, well supplied with hot wet flannels, stood on the left side of the patient, I, standing on her right, made an incision about five inches in length slightly to the right of the linea alba, dividing the skin, fat, and rectus muscle. I then divided the two layers of peritoneum on a director. The question of the position of the placenta then occurred to me, but I could not feel any pulsation by placing my hand on the uterus; and Dr. Burchell urged me to go on with the incision through the uterine wall; this I did, and, strange to say, cut immediately upon the placenta, which was evidenced by a gush of blood. To complicate matters, an arm came through the incision. I at once enlarged the opening, pushed back the arm, removed the placenta, and, seizing the legs, withdrew the child, who gave evidence of vitality, and was removed by a nurse during the latter stage of the operation. Dr. Burchell held the edges of the uterine wound closely in contact, with the edges of the external wound. No intestine was seen, but a piece of omentum came down, and was pushed up out of the way. The uterus now began to contract, and Dr. Aubery drew the edges of the external wound together by interrupted suture, over which lint and strapping were placed, and over all a broad flannel bandage. The patient was then left undisturbed for two hours, during which time she took some brandy and water and beef-tea.

I saw her at 6 P.M., and superintended her removal from the labour-bed. She expressed herself as feeling comfortable.—9 P.M.: Has taken small quantities of brandy-and-water, beef-tea, and ice. Pulse 120.

Sept. 16th.—9 A.M.: Pulse 95, very feeble; has not slept; complains of pain in the back. Brandy, beef-tea, and ice continued.—1 P.M.: Pulse 120, fuller; temperature 98°.—9 P.M.: Pulse 120. Patient has passed water freely several times during the day. Lochia present; is very restless; complains much of want of sleep. Administered ten grains of compound soap-pill as a suppository.—Midnight: Has not slept. Injected ten minims of liquor morphiæ hypodermically. Fell asleep in a few minutes.

17th.—9 A.M.: Patient has slept through the night, and is still very drowsy.—Noon: Pulse 132; temperature 99°. Has still continued to take the beef-tea and brandy; has also had some gruel and tea, which she fancied. Dressed the wound, which looked healthy. Complains only of pains in back. Had her placed on an air-bed.—10 P.M.: Abdomen tympanitic, but not painful.

18th.—11.30 A.M.: Pulse 106; temperature 98°. Bowels have acted once rather freely. Ordered her an egg beaten in gruel with brandy; also to have an enema of half a pint of gruel containing half an ounce of turpentine, to relieve tympanites, which caused a great deal of wind to be expelled.—1 P.M.: Abdomen tender. Ordered a grain of calomel, and one-fourth of a grain of opium in pill, every four hours.—Enema repeated at 4 P.M. with an equally good result to the first. Patient vomited, bringing up some nourishment mixed with bile.—10 P.M.: Pulse 116. Still sick. To have champagne instead of brandy, and continue the ice.

19th.—11 A.M.: Sickness after all that is taken. Patient appears very exhausted, and says she has not slept at all during the night. Bowels have acted naturally; no abdominal pain; lochia continue. Tongue clean and moist. To continue the champagne and ice, and try mutton-broth instead of beef-tea. Redressed the wound, which looked very well.—3 P.M.: Patient appears better. Has not been sick since 11 A.M. Has taken her nourishment well, and seems disposed to sleep.—10 P.M.: Extremely low; has not been sick, and expresses herself as feeling comfortable.

20th.—8 A.M.: Sickness returned at 11 last night, since which the patient has continued very restless, and appears now to be sinking from exhaustion. To have nothing but brandy and ice.—11 A.M.: Has not vomited again, but is sinking rapidly. Died at 12.45 P.M.

Autopsy.—4 P.M.: Body badly nourished, measured only four feet two inches. The thighs were bent forwards, and legs outwards. Between the sutures the wound was gaping. The uterine wound measured one inch and a half; was open and smelt very offensive; there was a small quantity of dark-coloured blood in the pelvis. The intestines and their peritoneal covering were healthy, but that investing the posterior portion of the pelvis was inflamed. With the husband's permission I have possession of the pelvis, which I propose adding to the collection of the Obstetrical Society.

The infant, a female, is progressing very satisfactorily, and has been taken from the workhouse by the father.

I cannot conclude this report without expressing the obligation I am under to Dr. Burchell, not only for his assistance at the operation, but also for his subsequent attendance with me upon the patient.

Old-street, E.

CASE OF RUPTURE OF THE HEART.

BY JOHN LOWE, M.B. & C.M. EDIN.,
ASSISTANT MEDICAL OFFICER, DURHAM COUNTY ASYLUM, SEDGEFIELD.

MARY ANN A——, aged sixty-six, retired to rest in her usual health about eight o'clock on the evening of July 17th. About four o'clock on the following morning the night attendant observed that she was sick and vomiting. She procured a cup of tea for the patient, who, after drinking it, seemed much better. About two hours later on she drank some more tea, and, at half-past eight walked down stairs unassisted, in charge of a nurse, and was placed in bed in another ward, where she could be more easily attended to. Those who had charge of her state that at this time she looked paler than usual and complained of feeling ill, but there was nothing about her appearance which led them to think that she was seriously ill, or that it was necessary to procure medical assistance. She was placed in bed to await the ordinary medical visit. About 10.30 A.M. an attendant observed that she breathed with difficulty and then suddenly became very pale. Thinking the patient was dead, she went at once for the medical officer, who, on his arrival, almost immediately afterwards found that life was extinct. According to the attendant's account, she did not appear to suffer pain at any time during the attack.

Sectio cadaveris, twenty-four hours after death.—Weather warm. Body stout and well nourished. Cadaveric rigidity was present in the lower extremities, and hypostasis was well marked. No marks of bruises or injuries of any kind. There was a large amount of subcutaneous fat, especially over the abdomen, where it was fully an inch in depth. The costal cartilages were partially ossified, rendering their section a matter of some difficulty. On opening the chest, the mediastinum was found to contain a large amount of adipose tissue, from which, near the base of the pericardium, blood was observed to be oozing freely. Careful removal of this fat brought into view the pericardium, which was much distended, and its cavity, on being opened, was found to contain a blood-clot (which completely enveloped the heart), along with a small quantity of fluid blood. A very small puncture of the pericardium existed near its base, evidently made by the point of the knife in cutting through the costal cartilage. The clot and fluid blood weighed eight ounces. On removal of the clot the heart was found to be imbedded in masses of adipose tissue, and a rupture was seen in the left ventricular wall, situated immediately to the left of the sulcus ventriculorum, and running nearly parallel with it. This rupture measured about three-quarters of an inch in length, its lower extremity reaching to about an inch from the apex; its edges were ragged, and it was occluded by means of coagulated blood. The heart was then carefully removed for examination. Its substance was soft and flabby and pale in colour, and the walls of both ventricles were abnormally thin. The right ventricle was empty, but the left contained a blood-clot, part of which protruded through the rupture in its wall. The wall was thinner at the point of rupture than elsewhere, and was distinctly pouched in its immediate vicinity. The inner opening of the rupture was of less extent than the outer, being barely half an inch in length, and its edges were smooth. A partial rupture of the muscular fibres extended upwards and downwards from the upper and lower ends respectively of the internal opening. The valves were healthy and competent. Patches of atheroma existed in the wall of the aorta, a little above its origin.—Both lungs were adherent by fibrous bands at the apices, the left more especially so, and both were emphysematous and somewhat congested throughout.—Abdomen: Liver fatty; spleen soft and pulpy; kidneys and uterus of normal appearance.—Head: The inner table of the skull was abnormally thick and brittle. Extensive adhesions of the dura mater existed in and near the mesian line. The sinuses were gorged, and there was considerable atrophy of the frontal convolutions.

Remarks.—This case, compared with that reported in THE LANCET of July 13th, presents some resemblances as well as points of difference. It resembles the case referred to in that sickness was the first symptom of anything being amiss, and in that the attack came on when the patient was lying quietly in bed, after having retired the previous evening in her usual health. The chief points of difference are:—1. That the patient in this case belonged to the female sex, in which rupture of the heart occurs more rarely than in the male. 2. That she recovered to some extent from the attack of sickness, and was able to walk downstairs some hours afterwards without assistance. 3. That she did not appear to suffer pain in the chest or elsewhere previous to death. 4. That the rupture existed in the wall of the left ventricle in place of the right.

I am inclined to think that in this case a very small opening had at first taken place in the ventricular wall, from which a gradual oozing of blood ensued, causing the sickness from which the patient at first suffered. A complete and extensive rupture then occurring suddenly, instantaneous death was the result. It is certainly difficult to explain how the patient improved for a time; but this seems to me the most reasonable interpretation of the symptoms. The small puncture in the pericardium accounted for the oozing of blood from the adipose tissue in the mediastinum observed at the post-mortem examination.

Durham County Asylum.

A CASE OF BONY TUMOUR IN THE SUBSTANCE OF THE BRAIN.

BY WYKEHAM H. LYDALL, M.R.C.S. ENG.

E. F——, aged fifty-six, widow, had suffered from epileptic fits for five years, and occasionally complained of pain over the brow. In general she seemed cheerful and in good health, with the exception of occasional lassitude, resulting, in a great measure, from the violence of the fits.

On September 9th she was taken in a severe fit at 8 A.M., which continued without the least intermission till 4 P.M., when she died.

Autopsy, twenty hours after death.—The body was well nourished; no rigor mortis. On removing the calvaria a quantity of fluid escaped external to the dura mater, which was much thickened. The brain was slightly congested, the ventricles containing about a couple of drachms of fluid. Over the right brow the substance of the brain presented a pinkish hue, and had thoroughly softened down to the size of a hen's egg. On careful examination this softened mass was found to contain a quantity of gritty matter, which, on cleansing, proved to be bone. One piece measured a little more than half an inch in length, and a quantity had become matted together to the size of a large hazel-nut. The lungs were healthy; the heart thin, fatty, and friable. There was no appearance of calcareous deposit, the valves being healthy. The kidneys were large; the left had an abscess on the surface, and contained hydatids. The liver, spleen, and stomach appeared healthy. Death doubtless occurred from effusion on the brain and syncope.

There is no history of a blow or fall of any kind to account for the disease in the brain; and the bone being found embedded in the substance of the brain precludes the idea of any growth from the calvaria. The arteries being found elastic and healthy, it could scarcely have formed from calcareous degeneration. With regard to this being the result of an abscess there is no history to bear it out.

The case is one of interest, as showing what may, in a measure, be the cause of epilepsy, and so give additional light on a so-called greatly increasing disease.

Mecklenburgh-square, W.C.

CHLORIDE OF POTASSIUM IN EPILEPSY.—Dr. Lander advocates this salt as better than bromide of potassium in epilepsy. He finds it is more active, costs five-sixths less, and has not the inconvenience of the secondary effects of bromide of potassium. He begins with small doses, and has continued the use of the drug for several months without any bad consequences in daily doses of from 3 grammes 50, to 5 grammes 50 (1 to 2 drachms). Moreover, Dr. Lander thinks that the bromide is converted into a chloride in the stomach, so he suggests the immediate use of the chloride.—*Echo Méd. et Pharm. Belge.*

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON HOSPITAL.

REMARKS ON THE ROUTINE USE OF THE OPHTHALMOSCOPE IN BRAIN DISEASE; OPTIC NEURITIS OFTEN EXISTING WITHOUT DEFECT OF SIGHT; RECOVERY FROM OPTIC NEURITIS.

(By Dr. J. HUGHLINGS JACKSON.)

For many years Dr. Hughlings Jackson has urged again and again the *routine* use of the ophthalmoscope in cases of brain disease. In a paper entitled "Observations on Defect of Sight in Disease of the Nervous System" (Roy. Lond. Ophth. Hosp. Reports, 1865, vol. iv., part iv., p. 403) he remarks: "It is imperative in all cases of severe cerebral disease—at all events in cases of an acute kind—to examine the eyes with the ophthalmoscope, *whether the patient complains of defect of sight or not.*" Since writing this, seven years ago, he has seen very many cases showing the absolute necessity of routine ophthalmoscopical examination, and is confident that without the use of the ophthalmoscope the diagnosis of the *nature* of intracranial disease—for example, whether it be tumour or not—is in the early stage of many cases next to impossible. Those who do not look into the eyes until the patient complains of defect of sight will overlook optic neuritis very frequently, and probably always its earlier stage.

The intraocular condition most frequently discovered in physicians' practice is double optic neuritis; and it is, says Dr. Hughlings Jackson, very common for this condition to exist in a patient who can read the smallest type, and who supposes his sight to be good: there is a marked pathological change without a symptom. It is safer, however, to use the expression without any *obvious* symptom, for Mr. Brudenell Carter has suggested that there may be, at least occasionally, enlargement of the blind spot in these cases of apparently perfect vision. But it remains that there often is no *obvious* defect of sight from optic neuritis; the patient will deny that there is any, and will read the smallest of our test-types (Snellen or Jaeger). Hence, if the ophthalmoscope be not used *by routine* in cases of brain disease, optic neuritis will be constantly overlooked. It is one of those things "not found" because "not looked for." To prevent any misunderstanding, it may be said that the statement as to conservation of vision does not apply merely to slightly abnormal ophthalmoscopical appearances. It applies also to cases in which the discs are much swollen and the edges lost, and in which there may be small, white, shapeless patches and effusions of blood.

Here it may be remarked that those who are trying to determine whether a disc is slighly "congested" or not, whether the vessels are too full or not, are taking up one of the most difficult tasks in ophthalmoscopy, and one which requires for its proper accomplishment an enormous experience of healthy ophthalmoscopical appearances. Again, reports of cases in which there is stated to be slight hyperæmia or slight anæmia of the discs are not to be accepted as definite statements, unless the colour of the patient's iris and hair is given also, for the colouration of the optic discs varies with the patient's complexion.

A further point of importance is that the changes of neuritis may disappear, the patient's sight remaining good. (It is well known that the ophthalmoscopical changes which sometimes occur in chronic Bright's disease may disappear, but these cases are not here spoken of.)

Since, however, it is no easy matter to determine whether a disc is *absolutely* normal or not, it is safer to say that the appearances remaining after severe neuritis may be insignificant. This is a matter of very great importance. We will give an illustration. A patient has occasionally epileptiform seizures; if he has no severe pain in the head, and no vomiting, we can usually only conclude that he has some kind of pathological change in his brain which causes instability of grey matter. But if we discover optic neuritis, whether the patient sees well or not, we can then say, almost with certainty, that there is a *coarse* change (glioma, syphiloma, &c.), or, as it is usually put, that there is "organic disease." In such a case the neuritis may, as before said, exist and pass away without causing any defect of sight, so that, unless we use the ophthalmoscope by *routine* (whether the patient has defect of sight or not), we shall now and then overlook one of the most important elements in the diagnosis of the nature of a cerebral lesion.

Dr. Hughlings Jackson believes that recovery from optic neuritis is much commoner (or, in other words, passes off without leaving any defect of sight) than we have hitherto imagined. Hence a critical examination by the *direct method* is necessary in all cases of nervous disease where the patient *has had* severe pain in the head, although his sight may never have been affected, and although there may be no *recent* changes in his discs. We do often find trifling changes—white streaks by the sides of the vessels, a little obscurity in the course of some of them, and also, at a little distance from the disc edge, sudden bending of the veins (limits of the previous swelling?) But as yet the interpretation of such changes, when they are slight, is difficult. We cannot always be sure they are the relics of past optic neuritis; some of them may be only physiological peculiarities.

The statement that apparently good vision may exist when there is double optic neuritis is still received with more than incredulity by many, the short reply, "it is impossible," being sometimes considered sufficient. At other times there is a critical silence. It does seem absurd to say of a patient whom we find reading the newspaper that he has acute or severe optic neuritis (double), but the fact is accepted by ophthalmic surgeons. It was first pointed out by Blessig. In one case, in which Dr. Hughlings Jackson declared there to be double optic neuritis it was replied, "He (a boy patient) can see a hair on his pillow." But, as already urged, the statement that there are markedly abnormal ophthalmoscopical appearances does not involve the implication that sight is defective. In the wards of a hospital it is not at all uncommon, when we take some one to see "a marked specimen of optic neuritis," to find the patient reading. We recently saw in the hospital a woman who spent a good part of her time reading, and who declared her sight to be "beautiful," yet her discs were then much swollen, their edges lost, the veins knuckling over the edge of the disc, or rather over the edge of the swelling, which made the so-called disc of about twice its normal diameter. She could read with each eye all the common words of No. 1½ Snellen, and her inability to read the unusual words was evidently owing to defective education; she did not hesitate at any of the latter, but made some kind of a word of each—e.g., for "Gallic" she said "Gentile." Now in this case the optic neuritis was the only trustworthy evidence as to the *nature* of the internal cerebral lesion. The fits she had pointed merely to disease of *some* kind in the cerebral hemisphere, but the optic neuritis showed that that disease was of a *gross* kind (such as glioma, syphiloma).

It is also to be urged that we are not to be content with one or two examinations, for neuritis may come on *after* the appearance of marked cerebral symptoms—after convulsions, for example. In all cases of cerebral disease, where there is severe pain in the head, the ophthalmoscope should be used at every visit, for in such cases optic neuritis is likely to come on. We may here catch the very earliest stage, then trace the neuritis to its climax, and thence either to optic atrophy or to recovery.

In the cases of recovery from neuritis which Dr. Hughlings Jackson has seen the patients have taken large doses of iodide of potassium. Not one of them had had optic neuritis only, but in addition such symptoms as convulsion. It is to be observed, however, that the cases treated were treated in a very early stage of neuritis when there was no defect of sight. Whether sight would have failed, whether atrophy would have followed, if no iodide had been given, is a question which does not yet admit of answer.

The cases seen by ophthalmic surgeons are different. They see patients whose sight *has failed* more or less, and inferentially cases in which the neuritis is in a later stage, when treatment is likely to be less efficacious. It is probable that in most cases of amaurosis from optic neuritis there is a pre-amaurotic stage, and one in which the ophthalmoscopic appearances differ from those found when sight is defective. The ophthalmoscopic appearances from first to last in cases of neuritis vary very much indeed, so much that those who have not often traced cases from the very beginning might think there were many varieties of neuritis.

The important fact to be insisted on is that *optic neuritis will come on and pass off without there being any defect of sight from first to last.*

MIDDLESEX HOSPITAL.

WOUND OF ABDOMEN; PROTRUSION OF INTESTINE; HÆMORRHAGE; PERITONITIS; DEATH.

(Under the care of Mr. HULKE.)

THOMAS W——, aged forty-three, a thick-set, stout, sallow-complexioned man, was admitted on March 5th, at 1.15 A.M., with a wound of the abdominal walls, produced twenty minutes previously by falling on a quart bottle which he had in his pocket. A portion of the colon and omentum, nearly as large as a fœtal head, protruded through the wound, which was on the right side of the abdomen in a line with the umbilicus, jagged, and about three and a half inches in length. The clothes were saturated with blood. At the time of admission the patient was cold and unconscious, partly from drink. The peritoneum could be felt constricting the hernial mass, and as this could not be reduced, the patient was put under chloroform, and the peritoneum nicked in three places, when, after a little difficulty, the whole mass was returned. As the hæmorrhage, which was considerable, could not be stopped, the external wound was enlarged towards the median line, and the bleeding points tied. The peritoneal cavity appeared to contain a large quantity of fluid blood, but as no other bleeding points could be found, the deep parts of the wound were brought together by a quilled suture, the external wound being closed by the ordinary suture covered with lint saturated with carbolised oil, and supported with a pad of cotton wool fixed with broad strips of plaster. After the chloroform the patient still remained in a collapsed state; surface cold and clammy; pulse quick and almost imperceptible. Ordered one tablespoonful of brandy every hour by the rectum, if patient cannot swallow; to have a subcutaneous injection of half a grain of morphia at once, and to take a half-grain opium pill every hour. 8.10 A.M.: Patient conscious, and has been for two hours. Surface of body warm; considerable oozing from the wound. —9.30 A.M.: Temperature normal. Patient complains of great thirst. Brandy to be given every two hours.—2 P.M.: Complains of feeling hot; is perspiring freely. Brandy to be discontinued. To have ice to suck.

March 6th.—Had a good night up to 4 A.M., when he vomited, and then vomited everything he took. Had a rigor at 5 A.M., and another about 6 A.M. He died at 9 A.M.

On March 5th the patient took eighteen pills, and on the 6th five.

Post-mortem appearances.—The omentum looked like a mass of clotted blood; a large quantity of coagulum was found in peritoneal cavity. No wound of the intestine, and no open artery could be detected. There were signs of commencing peritonitis.

OMENTAL HERNIA; NECK OF SAC OBLITERATED; EFFUSION OF SERUM.

(Under the care of Mr. HULKE.)

The following seems to be a case of spontaneous cure of omental hernia which had lasted considerably over twenty years.

A married woman, aged forty-eight, was admitted into hospital July 11th, 1871. She has had a rupture for twenty-three years, and has worn a truss for twenty-two years. The present swelling appeared on July 9th. Previously the hernia had been perfectly reducible. The swelling came down underneath the truss. On admission there was a soft, fluctuating swelling in the position of a right femoral hernia measuring three inches in length and two inches in breadth; the swelling was painless on pressure, had slight impulse on coughing. Complained of pain in lower part of abdomen; bowels were opened on the 10th; felt sick on Monday (the 9th), but did not vomit; appetite good; tongue clean and moist; pulse 64; temperature 98°.

July 13th.—No notable change in swelling; is free from pain; bowels have not been opened since admission; pulse 64; temperature 98°.

14th.—Swelling in groin slightly smaller; bowels were freely opened yesterday; has rheumatic pains in limbs; pulse 80; temperature 100·8°.

17th.—Swelling is gradually diminishing; bowels opened yesterday; a coarse granular mass, evidently omentum, can now be felt; swelling dull on percussion.

The patient went on much the same till her discharge on July 31st; the swelling not at all tense. What remained could not be reduced, and appeared to have no communication with the abdomen.

CHARING-CROSS HOSPITAL.

CASE OF MITRAL DISEASE; EMBOLISM; DRY GANGRENE; HEMIPLEGIA; DEATH.

(Under the care of Dr. HEADLAND.)

THE notes of the following case were communicated by Mr. P. W. Delamotte.

C. W——, aged thirty-three, chandelier maker, a thin, pale man, fair complexion, was admitted into Charing-cross Hospital, June 12th, 1872, suffering from a continuous pain in the bowels and lower extremities, which were flabby, hyperæsthetic, attenuated, and slightly œdematous at the ankles, and the left knee was a little swelled. The action of the heart was weak, at the apex was a double bruit, and a thrill could be detected by the hand. Round the margins of the gums was an indistinct blue line; the bowels, moreover, were constipated. Ordered to take half-drachm doses of the sulphate of magnesia with twenty minims of dilute sulphuric acid three times a day. The patient improved considerably, and lost the pain in the abdomen, and the constipation was relieved.

June 24th.—Legs free from pain, but still tender.

28th.—Ordered to take iron and quinine. Tenderness of the muscles persisted. The patient could walk, but with much pain. His general health did not improve.

July 15th.—Ordered five-grain doses of the iodide of potassium and cod-liver oil. The tenderness and pain in the legs much about the same as before the 24th ult.

Aug. 10th.—Intense pain attacked the right leg and foot, which lasted some hours, when he lost sensation and motion in both. The limb was cold, swollen, and of a whitish-blue colour. Pressure in the popliteal space caused severe pain. No pulsation in the anterior or posterior tibial arteries. The temperature of the limb was maintained by artificial heat. The thermometer in the mouth on the evening of the 11th stood at 104° Fahr.

13th.—Two or three small pinkish-red spots appeared on the dorsum of the foot, and on the plantar surface was a large dark patch, resembling the smaller spots, immediately behind the toes, and extending to the middle of the foot on the inner side. At the base of the left lung were rough crepitant râles. The temperature ranged from 100° to 104° Fahr. The treatment consisted of two-grain doses of the disulphate of quinine every four hours, stimulants, and spoon diet.

14th.—Temperature in the morning, 102·2°; in the evening, 103·8°. Ordered to increase the quinine to four-grain doses.

15th.—The urine of a smoky-red colour. It did not contain more albumen than the blood would naturally furnish. The foot looked better, but still gangrenous.

From this date up to September 9th the leg and foot gradually regained motion and sensation; the temperature of the body varied from 100° to 103° Fahr., being usually lower in the morning and higher in the evening. The spots on the dorsal surface of the foot disappeared, but the sole of the foot remained the same. The double mitral

disease and the rales at the base of the left lung remained. Blood was still present in the urine, but no casts could be detected. He usually took his food with appetite.

Sept. 9th.—At 3 A.M. patient had a rigor, which lasted ten minutes; after the rigor slight facial paralysis was observed on the left side. At 10 A.M. could not move the left leg, but was still sensible, and took nourishment. At 2 P.M. he was visited by Dr. Green, Dr. Headland being out of town, when he was semi-comatose, and had quite lost the power of the left side. The face was drawn to the opposite side.

From this time he gradually sank, and died at 8 P.M. on September 11th.

The autopsy was made the following day by Dr. Green. The heart was dilated, more especially the left ventricle, the walls of which were extremely thin. A large portion of the mitral valve was destroyed by an atheromatous ulcer, on the margins of which were several vegetative masses. Each kidney presented several yellowish organised infarcts. In the spleen was a large wedge-shaped infarct. The membrane on the posterior lobes of the brain was hyperæmic, and many of the vessels at the base were plugged with thrombi, and the left optic thalamus was softened. The lungs were œdematous, the lung-tissue being tougher than natural.

LEEDS PUBLIC DISPENSARY.

FEMORAL ANEURISM; LIGATURE OF EXTERNAL ILIAC ARTERY; RECOVERY.

(Under the care of Mr. JESSOP.)

SAMUEL S——, aged thirty-seven, applied at the Leeds Public Dispensary on Oct. 16th, 1868, on account of a large swelling which had recently formed on his left thigh just below the groin. Mr. Shaw, of Louth, who at that time filled the office of senior house-surgeon, at once communicated with Mr. Jessop, who then took charge of the case. The patient said that his family was a remarkably healthy one, and he himself, though short in stature, was muscular and equal to great exertion. He had always been sober. When twenty-five years old he had a chancre, with suppurating buboes, and these were not followed by any constitutional symptoms. His occupation for many years had been that of a striker in a mechanic's shop. Whilst lifting his hammer, which weighed twelve pounds, he had been accustomed to rest the point of the handle against the front of his left thigh, and to repeated injuries thus caused he attributed his ailment.

In May, 1868, he began to suffer from occasional shooting pains in the thigh, knee, and leg; and during the first week in September his attention was arrested by a prominent swelling, not larger than a marble, which "beat like a heart." By the first week in October the swelling had gradually attained the size of a hen's egg, pulsation being very distinct; and towards the end of that week a sudden enlargement took place. He could no longer feel any pulsation; the pain became much more intense, and he was compelled to give up his work. Thinking that a "gathering" was about to form, he took to his bed, and endeavoured to "bring it forward" by means of poulticing. This treatment was still being continued when first seen by Mr. Shaw on October 16th.

Occupying the whole width of the limb, and extending from two fingers' breadth below Poupart's ligament to the middle of the thigh, was a prominent, dusky, semi-solid swelling, in which a very faint distensile pulsation could be both seen and felt, and over whose whole surface a well-marked soft bruit could be heard. Compression of the artery at the groin caused immediate cessation of the beating, but gave rise to very little, if any, diminution in the size of the swelling. No pulsation could be felt in the artery below, either in the ham or at the ankle. The appearance of the limb elsewhere was natural, and the temperature of the two limbs was equal. A most careful examination failed to elicit any evidence of other disease. He complained of pains in the lumbar spine, and in the thigh and leg. He had frequent attacks of cramp in the calf, and the whole limb felt numb and lifeless. On October 17th the swelling had decidedly extended in an upward direction, and as on the 18th it had reached as high as Poupart's ligament, it was decided without delay to tie the external iliac artery. This was accordingly done by Sir Astley Cooper's method, a strong silk ligature, one end of which was left hanging out of the wound, being used for securing the vessel. One small artery, divided during the operation, was secured by ligature. The edges of the wound having been brought together by wire sutures, and covered with a compress of lint, the whole limb was wrapped in cotton wool and flannel.

Without entering upon a daily detail of symptoms which, with few and unimportant exceptions, were of a favourable character, the following is a brief statement of facts. The temperature of the sole of the foot reached its lowest point five hours after operation, when the thermometer stood at 81°, and in three hours more it had risen to 83°, the right foot at the same time showing 92°. On the morning of October 19th the left foot showed 91·6°, and on the 20th, 96°, at and after which time there was little variation between the two feet. The highest temperature in the axilla was registered on the afternoon and evening of October 19th, and was only 100·3°, the left foot being at the same time 93·6°, and the right 96·3°.

The pulse at first ran rather high: in the evening of the day of operation it was 110; on the morning of October 19th, 128; and in the evening of the same day, 132. On the 20th it had come down to 120, and on the 21st to 102. From this time it diminished in frequency until Oct. 30th, when it counted 90.

Subcutaneous injections of morphia were given during the four days following the operation, for the relief of pains in the back and body.

Daily observations were made as to the condition of the limb. On October 21st its appearance was quite natural; on the 27th the heel was congested, a livid spot was noticed behind the inner malleolus, and the veins of the calf were more prominent than before. On November 1st, the veins had subsided, and the livid spot had faded; and on November 12th the limb had again assumed a natural appearance.

On the evening of the operation the aneurism felt hard, and no pulsation could be detected in it. On October 20th it had become soft and fluctuating, and was decidedly smaller. On the 26th it was still fluid, but had increased in size and looked more diffused. On the 30th it had again lessened somewhat, and was a little firmer. By Nov. 11th there was a further diminution in its size, and fluctuation, though still apparent, was less distinct.

On Nov. 16th the ligature came away, the wound having closed with the exception of the spot from which the silk had separated.

On Nov. 29th he was allowed to sit out of bed for an hour, the aneurism being then about as large as a cricket-ball; and on January 8th, 1869, he began to walk out on crutches. His recovery proceeded steadily; but for many months the position of the aneurism was occupied by a semi-solid swelling which very slowly subsided. Considerable contraction and rigidity of the knee-joint subsequently took place, and much persevering treatment was needed to rectify it; so that it was not until the end of 1869 that he could be considered in a fit state for work. He is now (Sept. 1872) employed in a mechanic's shop; he walks well and firmly, making use occasionally of a stick, because of weakness in the affected limb. A little thickening in the course of the vessel in Scarpa's triangle alone remains to show the former site of the aneurism. The whole limb is a little less than the other, but it is muscular and well nourished.

THE LONDON HOSPITAL MEDICAL COLLEGE.—*Distribution of Prizes, Session* 1871–72.—Clinical Medicine: £20 Scholarship, Mr. W. L. Morgan. Clinical Obstetrics: £20 Scholarship, Mr. W. L. Morgan. Dressers' Prizes: Messrs. C. A. Low, W. Lang, G. B. Sincock, H. G. Brown, W. Hurford Todd, and J. D. Watson. Buxton Scholarships: £30 Scholarship, Mr. B. R. Rygate; £20 Scholarship, Mr. H. E. Price; Certificate, Mr. R. H. Fox. Human Anatomy: £20 Scholarship, Mr. R. H. Fox; Certificate, Mr. Burton-shaw. Anatomy, Physiology, Chemistry: £25 Scholarship given by the Medical Council, Mr. C. A. Mercier; Certificate, Mr. Hyde Walker.

Reviews and Notices of Books.

The Beginnings of Life; being some Account of the Nature, Modes of Origin, and Transformations of Lower Organisms. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S. In Two Volumes, with numerous Illustrations. London: Macmillan and Co. 1872.

THE subject of spontaneous generation, or "archebiosis," as Dr. Bastian prefers to call it, has not only been the theme of much discussion during the last few years, but, from the number and distinguished position of those who have written or spoken upon it, has acquired an interest unsurpassed by any other department of biology.

We commenced the perusal of Dr. Bastian's luminous treatise with a strong bias in favour of the old notion of *omne vivum ex ovo*. We close it feeling that he has *almost* persuaded us to believe in spontaneous generation. Under this term, however, as Dr. Bastian rightly points out, two different series of phenomena have been erroneously included—spontaneous generation proper or archebiosis, and heterogenesis, the former being the production of living beings in organic solutions without the presence of parents or germs; the latter being that process by which the matter of already existing living things gives birth to other living units wholly different from themselves, and having no tendency to assume or revert to the parental type. The evidence Dr. Bastian has accumulated upon both of these subjects from many different sources, and the skill with which he has marshaled his forces, are in the highest degree creditable to his judgment and sagacity; and he has, we think, struck a powerful blow against the doctrines of the Panspermists, which will certainly lead to further careful research and experiment. His own investigations, no doubt, require multiplication and verification by others; but they seem to us to demonstrate either that the germs of the lowest organisms are capable of bearing far higher temperatures than the adult, or that, where the external conditions are favourable, actively moving, though lowly organised, creatures may be developed *de novo* in solutions of organic substances.

The difficulties under which those who believe in archebiosis labour are of no ordinary kind. It is necessary for them, in order to prove their point, to subject the materials with which they are working to such ordeals as may satisfy their opponents that no living germ can be present; but in effecting this they frequently so change the fluids and solutions with which they are operating, or place them under such conditions, as to render them in the highest degree unfavourable to the production or maintenance of life; so that whilst, on the one hand, the supporters of the old view point with complacency to the frequent absence of life where such conditions have been most perfectly complied with, the evolutionists very reasonably reply that the conditions no longer resemble those that exist in nature, and that the production of life is as impossible under such circumstances as the appearance of chlorophyll in a stem or in leaves that have been sedulously protected from light, or the germination of a seed that has been kept perfectly dry. The method of conducting an experiment in which the introduction of fresh air from without shall be permitted whilst the possibility of the introduction of germs shall be excluded, though apparently easy, is in reality so difficult that it is doubtful whether it will ever be accomplished. The methods adopted by Schwann, Schultze, Ure, Helmholtz, Schröder, Donné, and others, are all open to the objection that it is possible that the air passing through the hot segment of the tube, or the sulphuric acid and potash solutions, or the cotton wool, according to their mode of experimentation, may have carried with it some germ or germs which have escaped destruction during the temporary exposure.

The most satisfactory mode of procedure is, unquestionably, to expose the organic infusion in hermetically sealed tubes for some length of time to a temperature believed to be incompatible with the preservation of life. Now the concurrent testimony of many experimenters shows that no living thing, germ or adult animal, can support sudden exposure to a temperature of 212° Fahr.; indeed a temperature far below this—131° Fahr.—seems to be fatal to all the lower organisms. Still it is more satisfactory to apply higher temperatures, since they are easily applied, and the results are of course far more trustworthy. This Dr. Bastian has done, and he finds, as many experimenters have before him, that though exposure to the temperature of boiling water will entirely abolish all evidence of life in the lower organisms already present in any solution contained in an hermetically sealed tube, such exposure will by no means prevent their development anew in it when it is placed under favourable conditions. In such experiments it appears to be impossible that any germs can gain access from without, and the question therefore would seem to be reduced to one of fact—namely, whether the lower forms of animal and vegetable life—the Protista, in short—will really make their appearance in a solution of any organic substance that has been exposed to a boiling temperature, and then hermetically sealed whilst in a state of ebullition? At first sight experience appears to decide in the negative. The preservation of meats and all kinds of fermentable and putrescible substances in tins is dependent upon the very fact that in the solids and fluids so sealed no animal or vegetable life makes its appearance. But, as Dr. Bastian very sensibly remarks, those who have appealed to this fact appear to have forgotten two most important points: first, that after the sealing is accomplished and the tins have cooled, the contained substances are virtually *in vacuo*, though the presence of free oxygen may be essential to the production of life; and secondly, that there is an absolute privation of light, though light, or the rays which accompany light, may be also an essential to the development of life. On the first point, however, he lays little stress, showing, indeed, by his experiments, that in an infusion of an organic substance, provided it be exposed to light, even *in vacuo*, the production of living organisms will to some extent take place, whilst their mode of production under these circumstances seems precisely similar to that which occurs in the same infusion freely exposed to air. He also points out that, however unfavourable to the production of life are the conditions present in the interior of such canisters, some traces may not unfrequently be observed in the form of bacteria and vibrios.

His account of the changes which occur in organic infusions when freely exposed to the air and light, is full of interest. In the first instance, there is a slight evolution of gas, the liquid, previously bright and clear, becomes turbid, a thin mucous or membranous pellicle forms on the surface, which is found on microscopic examination to be swarming with bacteria, minute specks of living matter known as monads, microzymes or plastide particles, and torula cells, which soon elongate to form vibrios, spirilla, and long branched filaments, termed leptothrix, resembling the mycelia of fungi.

The method of experimentation frequently adopted by Dr. Bastian to demonstrate the occurrence of archebiosis was to take a strong infusion of turnip, to which a minute fragment of cheese had been added, and enclose it in a glass tube, about three-quarters of an inch in diameter,

nine inches long, and closed at one end by fusion of the glass. The open end of the tube was then drawn out, so as to form a thick capillary tube, which was afterwards connected with a Sprengel's mercurial pump, and so good a vacuum procured that ebullition occurred with a very slight elevation of temperature, the vapour expelling the last traces of air from the apparatus. After the boiling had been continued for several minutes, the tube was hermetically sealed at the capillary part. Sealed tubes thus prepared were placed in a kind of Papin's digester, and exposed under water to a temperature of about 150° C., or 300° Fahr., at which they were kept for periods varying from a few minutes to several hours. They were then placed in the sunlight for several days or weeks. At the expiration of this period the capillary extremity was broken off, and the contained fluid examined. In some instances beef, or the muscle of fish, was used; and in others, again, solutions of potash and ammonia, alum, with tartar emetic, and a small particle of cheese. In all, or nearly all, bacteria, torulæ, and similar organisms were found.

Thus, then, in organic infusions which had been exposed to temperatures sufficient, so far as we know, to destroy all life, and preserved in hermetically sealed fluids, but exposed to light and moderate heat, the same changes were observed up to a certain point as in the corresponding infusions freely exposed to the air. There was the same slight escape of gas, the same turbidity of the liquid, with the gradual formation of a scum or flakes composed of specks and spherical particles, bacteria, torulæ, vibrios, and leptothrix filaments. The bacteria are often astonishingly numerous, and increase with extraordinary rapidity; yet their movements are slow and slight, multiplication by fission is very rarely observable, their distribution through the fluid is very uniform, and their derivation by any other explanation than that of archebiosis, unless their germs are everywhere present and are capable of resisting a high temperature, is incredible. On the other hand, it must be acknowledged that these forms are extremely simple, and that the colloidal substances from which it is supposed they spring are of eminently unstable composition, and therefore singularly likely to form new combinations.

Ueber die Ernährung der Kranken vom Mastdarm aus. Von Dr. W. O. LEUBE. Mit Holzschnitten im Text. Leipzig: F. C. W. Vogel. 1872.

THIS treatise appeared in substance in the *Deutsche Zeitschrift für klinische Medecin*. It is now reprinted in a revised and augmented form for all who are professionally interested in its highly important subject.

How to feed the sick when the ordinary channels for the reception of nourishment are occluded has exercised the medical mind since the days of Celsus. Dr. Leube gives a rapid but sufficient historical survey of the different modes, suggested from time to time, of solving this question. None of these are, to his mind, satisfactory. Indeed their failure in practice is condemnation enough.

The task which Dr. Leube set himself was to investigate whether and in what amount the meat introduced per anum comes to be digested. An injection consisting of meat and pancreas, if capable of being digested, must show itself in the nitrogenous exchanges of the consumer. To establish this, Dr. Leube adopted three different modes of proof:—(1) An animal in need of nitrogenous matter must show an excess of nitrogen in the urine, if it is in a position to digest nitrogenous nutriment introduced in excessive quantity per anum; (2) an animal in a state of nitrogenous equilibrium must remain so if an excessive proportion of the nutriment necessary for the maintenance of nitrogenous equilibrium is introduced, not per os, but per anum; (3) the nitrogenous contents of the fæces must, under the above hypothesis, be absolutely smaller than the collective nitrogenous contents of the meat and pancreas injection.

An elaborate series of physiological experiments, performed with characteristic German insight and patience—for which, however, we must refer the reader to Dr. Leube himself,—conclusively established the three following propositions:—

1. An *injectio per anum*, consisting of meat and pancreatic substance, is digested in the large intestine; and in this way secures the conveyance of nitrogenous nutriment into the organism.

2. An addition of fat to the meat and pancreas injection does no harm to the digestion of the latter.

3. The addition of starch to the pancreatic clyster easily causes diarrhœa, through the active conversion of the starch into sugar occurring on injection in the large intestine.

Having established these propositions physiologically, Dr. Leube, in the next section of his treatise, shows their application in practice. Clinical experience convinced him of the following facts:—

1. The injection of finely-minced meat and pancreas mixed together into the large intestine almost never occasions diarrhœa; as a rule, the injected mass lies from twelve to thirty-six hours in the gut without provoking stool. The latter symptom, on the contrary, presents itself readily if fat is mixed with the injection. If the quantity of the added fat amount to no more than the sixth part of the meat, the invalid retains the triple injection just as well as he does the twofold meat and pancreas one.

2. The pancreatic injection must, under all circumstances, be preceded by that of a simple water enema. Only when entirely freed from fæcal matter is the large intestine adapted for the reception and digestion of pancreatic nutriment. It is also useful to apply a cathartic clyster, even though, immediately before the nutrient enema is to be taken, a stool should have occurred of itself.

3. The first enemata received as nutriment by the patient are often apparently not digested. The practitioner need not on that account desist from the application of injections. Failure with the first or second by no means implies non-success with the third.

4. If a clyster, after a series of squirts have been well borne, is evacuated before the time, it will be advisable, so as to spare the gut, to intermit a day of the injections.

5. The above-described injection-material indicates itself as peculiarly adapted for nutrient enemata, through its efficiency, through the fitness of its composition, as also through the circumstance that its ingredients bear a peculiar analogy to the natural digestive processes in the large intestine.

6. The patient experiences no kind of unpleasant or inconvenient sensation after the pancreatic clyster. Not only are hypogastric pressure and pain after the injection conspicuous by their absence, but, on the contrary, there is not seldom a sensation of satisfaction, the absence of the feeling of vacuum in the belly, and sometimes even the disappearance of hunger.

7. In all cases there was observed, as a consequence of the injections, an increased fulness of pulse, an improvement of the general condition, and a rise in the patient's spirits.

Dr. Leube concludes his able, instructive, and eminently practical treatise by detailing the conditions under which his injections are indicated. These are much more frequent than is ordinarily imagined. Chronic catarrh of the stomach, peritonitis from its various causes, local or systemic, ulceration of the small intestine, intestinal hæmorrhages, are a few out of many occasions in which the appli-

cation of the meat and pancreatic injection will occur to the practitioner as of valuable service. Tetanus, too, and tabes mesenterica are other instances of the kind.

Dr. Leube, it is fair to add, received assistance of a very material kind in the prosecution of his investigations from the well-known Erlangen Professor von Ziemssen, and also from Professor Kühne in Heidelberg. But the merit of the exposition, and it is not small, remains in the highest measure his own; while the language is admirably clear, even when inelegant, not to say clumsy.

REPORT
OF
The Lancet Sanitary Commission
ON
EMIGRANT SHIPS.

No. I.

IN pursuance of this subject, briefly introduced last week in the pages of THE LANCET, it is well to mention that there are at present five chief lines of steamships that carry emigrants between Liverpool and the United States, named respectively the British and North American Company (or Cunard's); the Liverpool, New York, and Philadelphia Company (or Inmans'); the National, the Guion, and the White Star lines. These companies own unitedly from fifty to sixty of the finest oceanic steamers, of from 3000 to 5000 tons each; and about six of these sail every week from the Mersey, with freights of emigrants varying in number from 300 to 1000 persons. The Pacific and "Allan's" Companies also carry emigrants; but as the vast bulk of those who start from our shores are carried to New York or Boston, we elected to confine our attention to the five companies above-mentioned, and had from all their representatives every facility given for the proper conduct of a complete tour of inspection. Thus we were enabled to visit one vessel in dock, a second when just out of dock, and two others several hours before the time of departure, when all the emigrants were on board and were being officially inspected by the emigration officers. Lastly, our inspection was most valuably supplemented by a journey to Queenstown in a fifth ship, which belonged, as we were informed, to the youngest of the five companies above-mentioned.

As the object of this inquiry is not immediately connected with the physical condition of emigrants on embarkation, but with accommodation given, and treatment received, we shall describe briefly (1) general arrangements; (2) ventilation and sanitary arrangements; (3) scales of diet, and the way in which the food is served.

1. *General arrangements.*—These vary considerably, and are not, in fact, exactly alike in the ships of any two companies. All the vessels have a chief steerage, as well as a lower or "orlop" deck, which latter is not always used. The main steerage deck varies from 7½ to 8 feet in height, and is in most ships divided completely across by one or more fixed bulkheads, thus forming an aft and a fore steerage. The married couples, with their children, and the single women, are in some cases, placed together in the aft steerage, the married people being on one side of the ship, and the single women on the other. In some ships married people, single men, and single womenn are all separated from each other, a boarded division being built up across the ship; in others, no division at all exists. The berths (or, in shore parlance, bed-places) are arranged in lots of from 20 to 24 each, on two levels from deck to deck, with one or two scuttles to each of these compartments, and have a passage between them averaging in width 3 feet. Each berth is at least 6 feet in length; and, among the five ships inspected, varied in width from 20 to 26 inches. In those vessels where the single and married compartments occur indiscriminately, the walls of each are completely closed, and hinge or sliding doors are provided, so that in such cases the compartment is as exclusive as an ordinary room ashore; but privacy is purchased at the cost of fresh air, although some small openings exist between the beams above, and also under the lower berths. In these ships where the married couples and single women are separated from the rest, or where all three classes are separated from each other, the berths are built generally with open or trellis work; though, as we observed in one instance, this was so arranged as to exclude observation from without pretty completely. The tables are placed fore and aft between the rows of berths, and in most cases are, when not required, fixed up above close to the beams, so as to leave the space amidships clear. In several ships, where width permitted, fixed seats were also put up fore and aft along the outside of the berths.

The system of closet and urinal arrangement varies very much. In the older ships both are sometimes fixed on the upper deck, and thus all emigrants are required to come up the ordinary ladder in order to use them. In others they are arranged on the main deck, but in the newest ships there are distinct sets of closets for each class of persons, each set being approached by a ladder from the steerage, so as to be easily entered in all weathers by the women and children.

Lavatories, with hot, cold, and salt water laid on, and with the same sort of entrance from below, are provided in all the new ships; but many of the old vessels have none at all, so that women and children are compelled in all weathers either to wash on the upper deck or make a mess in their own quarters below.

The hospital arrangements are most curiously different in nearly every line of ships. In some—and those, too, of the newest class—a small compartment, containing from four to eight beds, is fitted up at the end or in the centre of each division, often in the most inconvenient part of the deck, and of course in the immediate vicinity of the general body of emigrants. In some vessels of an earlier date of build all hospitals are fixed on the upper deck, and in one case we were shown a third small compartment in the same part of the ship which was reserved for a midwifery or any other special case.

Such are the general arrangements of these emigrant ships; and, according to our own knowledge and belief, there are remediable faults in all. It is our decided opinion (1) that married couples with their children, single women, and single men should each have a separate division, with separate hatchways; or if this is not practicable, that the married men should be compelled to be separated from their wives and children at night, so as to have, at all events, one division for each sex; (2) that, either of these arrangements obtained, no indecency could be charged to the universal adoption of trellised compartments, and, as we shall show in our next article, the ventilation of the steerage must as a necessary consequence be improved in a very marked degree; (3) that the fixed seats fore and aft, though seemingly a small matter, are a great comfort to the women and children, and should be always put up; (4) that urinals, closets, and lavatories should always be provided for the women and children, and should be so arranged that they can be used without necessary access to the upper deck; (5) that, as a sanitary matter, it is most important to abolish all hospitals from the steerage—until, indeed, the arrangements for these passenger ships are far more ample than at present,—and the upper deck seems to be the only proper position for them.

It appears to us that, as far as general arrangements are concerned, all these suggestions might be combined and adopted in one ship without any great amount of difficulty.

CHOLERA IN THE HEDJAZ.

A REPORT published by the General Board of Health of Egypt on the measures taken in Egypt for the protection of that country from cholera during the recent prevalence of the disease in the Hedjaz contains, in addition to the particular subject of the report, much interesting information on the movements of cholera in Arabia. The disease,

as is already known to readers of THE LANCET, first appeared about the middle of June, 1871, at Hayel, in the Jebel Shammar, having been introduced there, it is stated, by a caravan coming from Meshed Hussein, in Irak Arabi. From Hayel the cholera passed to Khaiber, a town situated three days' journey to the north-east of Medina. Later it passed to Sileï'é, two days' distance from Medina, dying out about this time in the districts of the Jebel Shammar. Cholera ceased at Sileï'é on the 1st of November, and at Khaiber on the 3rd October; but in the meantime it had attacked two other localities in the same district, Hayd and Houmeid, both situated about four days' journey from Medina. On the 24th of September the disease appeared in Medina, attacking first the troops in garrison. Seven soldiers were seized from the 24th to the 26th of September, and of these three died. During the first fortnight of October the malady spread widely in Medina, attacking the civil as well as the military population, and a body of pilgrims come from Jedda for a religious festival. Between the 21st of September and the 10th of October 938 deaths from cholera were recorded in Medina. The pilgrims above referred to, on their return to Jedda, carried cholera with them, losing 35 persons from the disease on the route. Between the 15th and 18th of October several cases of cholera were reported in Jedda, happily not followed by others, unless certain cases of infantile cholera are to be included in the category. Towards the close of October cholera appeared at Mecca, and 36 deaths from the disease were reported in that city from the 31st of October to the 10th of November. Early in November cholera appeared at Yambo, and in December it broke out at Gonfudah.

Cholera ceased at Medina in November, at Yambo in December, and at Mecca just before the period of the great pilgrimage. At this time also it ceased at Gonfudah, and prevailed only at Hali, south of Gonfudah. In the course of January of the present year, a caravan of 2000 persons going from Mecca to Medina were attacked with cholera, and lost 89 persons. The days of pilgrimage this year were from the 19th to the 23rd February, and the number of pilgrims assembled was probably not less than 80,000. During the festival there was no appearance of cholera, but on the 27th February, when the greater number of the pilgrims had probably already departed, cholera reappeared in the city, and from that date to the 3rd March, 39 deaths from the disease occurred in the city. On the 10th March cholera broke out at Hodeida among the garrison, and on the 25th March it reappeared at Yambo, and about the same time at Medina, carried there by the caravans returning from Mecca. The great Egyptian land caravan lost 24 persons from cholera between Mecca and Medina.

Between the 4th and 16th of March, 1872, 500 deaths occurred in Mecca, of which 77 were declared to be cholera. The Damascus caravan, numbering 4000 persons, lost 400 from cholera. Medina, between the 20th and 28th March, lost by cholera among its population alone, independently of pilgrims (20,000 in number), 1800. The total loss of life among the population of the city and among the pilgrims, during this second outbreak, was estimated at 40.0. The outbreak ceased here entirely on the 3rd April, and during this month the disease disappeared also from Yambo and Mecca and the rest of the Hedjaz, and from the infected towns in Yemen.

The movements of the disease during this outbreak were determined almost solely by the movements of the pilgrims and of troops from garrison to garrison.

Such is a brief history of the recent prevalence of cholera in the Hedjaz. It would require too much space to give in detail the elaborate measures of quarantine adopted in Egypt for the protection of that country from disease. The energy and ability which guided the action of the Egyptian Government in the contingency are worthy of the highest admiration. That the extension of cholera was largely controlled by the measures it adopted, both in the Hedjaz and in Egypt, is fully believed, and with good reason, by the Egyptian Board of Health.

Foreign Gleanings.

TREATMENT OF CATARRH OF THE LACHRYMAL SAC BY MEANS OF INJECTION OF IODINE AND CAUTERISATION.

DR. VERNEUIL, of Lariboisière Hospital, believes that lachrymal tumour and fistula are due to inflammation of the walls of the sac, and not to stricture of the nasal canal. He therefore discards the use of mild injections and catheterism of the nasal canal as being almost useless. His manner of employing the iodine injections may be briefly summed up as follows:—He punctures the tumour, withdraws the contents by means of aspiration, and then directly injects the iodine. All this he manages with Pravay's small syringe for subcutaneous injections. The syringe being quite empty, and the piston brought quite down, the needle is stuck in. Then the piston is drawn up, and brings out the contents of the tumour into the syringe. The syringe is then unscrewed from the canula, cleaned out, filled with the iodine, screwed on again, and emptied into the sac. If the lachrymal points are not pervious, a few drops of the liquid may be pushed without danger into the sac, and suffered to remain there. But if the lachrymal points are easily pervious, it is important not to drive the tincture of iodine there, as it would fall on the conjunctiva. They must therefore be watched, and as soon as the colouration appears the piston must be withdrawn a little.

When the disease is old, and when fistula exists, Dr. Verneuil destroys the sac by means of butter of antimony, which he uses as follows:—The sac being previously prepared, and the fundus of the wound properly cleaned out, a quill is put into the sac, and by means of this channel a little of the caustic is introduced. The quill is then stopped with cotton-wool. The whole thing remains *in situ* for about twelve hours. Inflammation then comes on, followed by elimination of an eschar and healing.—*Journal de Médecine et de Chirurgie Pratique.*

CARBAZOTATE OF AMMONIA TO SUPERSEDE SULPHATE OF QUININE.

In a recent communication to the Société de Thérapeutique de Paris, Dr. Dujardin-Beaumetz investigated the character, properties, and uses of carbazotate of ammonia (combination of ammonia with carbazotic, picric, or trinitrophenic acid) especially as a therapeutic successor to sulphate of quinine. After relating the successful employment of this salt in intermittent fever by Braconnot, Calvert, Aspland, Bell, Chazereau des Thureaux, Manopa, &c., Dr. Beaumetz gave the results of six cases treated by himself, and of various experiments carried on upon animals and man. Like quinine, carbazotate of ammonia diminishes the strength of the pulse, and brings on heaviness, cephalalgia, and even delirium, and is eliminated by the kidneys. These effects have again been stated by Dr. Beaumetz. As to the clinical results they may be summed up thus:—Case 1: Quotidian ague; recovery after four days' treatment; daily dose from one to two centigrammes of the substance in pills. Case 2: Quotidian ague (sulphate of quinine having been given without effect); complete recovery after five days; five pills used. Case 3: Tertian ague; recovery after eight days; two pills a day. Case 4: Quotidian ague; recovery after eight days. Case 5: Facial neuralgia; speedy recovery. Case 6: Tertian ague; sulphate of quinine had been administered during seventeen days with no result; completely cured after the administration of six centigrammes (about one grain) of the salt for two days.

Dr. Beaumetz draws the following conclusions from the various facts observed in his six cases or brought out by his experiments:—Carbazotate of ammonia is very efficacious in intermittent fever; the suppression of the paroxysms may be obtained by the use of two to four centigrammes (one-third to two-thirds of a grain) daily; given in these doses the drug has never had any bad effects, and seems to be better tolerated than sulphate of quinine; the physiological action of the substance highly resembles that of sulphate of quinine.

THE LANCET.

LONDON: SATURDAY, OCTOBER 12, 1872.

AT last the secret is out. We are in a position fully to judge of the competence and also of the sincerity of Mr. STANSFELD as a reforming sanitary minister. Although the fact is not yet officially announced, we believe there is no doubt that some ten appointments of inspectors under the Local Government Board have been made, and that not one of them has been given either to a medical man or even to a distinguished lay amateur of sanitary science. They have been given, we are told, simply to the same kind of persons, without any special training in medicine or hygiene, but probably with useful troublesome) political convictions, who used always to be appointed to the inspectorships in the worst days of the Poor-law Board. To put it in the shortest and most expressive phrase, Mr. STANSFELD has simply revived the old Poor-law Board system with gigantically increased powers of mischief. He has provided, so far as lay in his power, that the sanitary work of this country shall be executed precisely as were the official inspections of the workhouse infirmaries before the days of THE LANCET Commission.

We may certainly claim for THE LANCET the right to speak plainly now that Mr. STANSFELD has committed himself to an act that cannot be misconstrued. We were among the first to take pointed notice of the rumours which prevailed some months since to the effect that Mr. STANSFELD had no intention of increasing the number of medical inspectors under the Local Government Board, and we reprobated such a policy, by anticipation, in the strongest terms. But, on the other hand, we were induced —far too readily, as it now appears—to accept the Parliamentary explanations of Mr. STANSFELD, which were sedulously and in all places retailed by his personal friends, to the effect that the delay to appoint a sufficient medical inspectorate was only temporary, and due to technical difficulties. Almost alone amongst medical journals and medical parties, we refused to believe that Mr. STANSFELD was employing language that was only calculated to conceal his intentions; and to this moment we can scarcely blame ourselves. Mr. STANSFELD has, it is true, never given the world reason to think that he possesses extraordinary ability of any kind, but it was formerly supposed that he was at least *un homme de bien*; indeed his reputation and his entry to the Cabinet seem to have depended simply on the general belief that a certain chivalrousness of disposition had once exposed him to persecution at the hands of the unromantic PALMERSTON. We are sorry to see him disposed to make ducks and drakes of such a very slender political capital.

There is at least this one consolatory view, however, of Mr. STANSFELD'S policy, calamitous as it must appear in every other regard—viz., that it must surely compel the profession and all their friends in Parliament to take up a resolute and settled line. For better or for worse, Parliament and the country have accepted the fundamental principle of Mr. STANSFELD'S recent Bill—which makes the parish the unit of sanitary administration—with a unanimity which makes it improbable that that principle will be disturbed for some years to come. For better or for worse, they have necessarily accepted, also, the appointment of the parochial medical officers as local officers of health all over the country; and there can be no doubt, as we formerly attempted to show, that with proper safeguards this latter system might be made a blessing to the country, and the means of a great and worthy elevation of the status of large numbers of medical men. But it was insisted from the first that, without the protection and frequent assistance of sanitary medical officers of a superior grade, it would be perfectly impossible for the ordinary parochial surgeons to do the duties of health officers with any efficiency. There in a wonderful depth of cynical dishonesty in the assumption that the average struggling union surgeon, with a trifle of extra pay and the mere name of medical officer of health, could dare to take the undivided responsibility of recommedinng the large and expensive reforms which are imperatively required in multitudes of English towns and villages. Protected by the authority of a highly skilled and independent inspector, he might make himself most useful; but placed as Mr. STANSFELD has placed him his efforts at sanitary reform will be simply powerless for good.

Already, we are glad to observe, there are signs of the commencement of what should be a powerful agitation within the profession, and subsequently in Parliament, to compel the reversal of Mr. STANSFELD'S monstrous policy. At a meeting of the Poor-law Medical Officers' Association, not merely did the president, Dr. ROGERS, point out very forcibly the utter unreality of the position in which the local medical officers of health will be placed if left without the guidance and help of superior medical officers not dependent on practice, but a decided opinion to the same effect was expressed, in speech or writing, by several very influential persons. Dr. LUSH, M.P., had travelled one hundred miles for the express purpose of denouncing Mr. STANSFELD'S betrayal of the cause of sanitary reform. Sir DOMINIC CORRIGAN, M.P., wrote very strongly in the same vein; observing that the appointment of mere lay inspectors to look after the new health officers "is as absurd as it would be for the War Office or Admiralty to appoint only lay or legal inspectors to control the manœuvres of an army or the tactics of a navy." Mr. DALRYMPLE, M.P., wrote with just indignation of the treatment which the profession has received at Mr. STANSFELD'S hands; observing, very truly, that it was only the forbearance of the parliamentary representatives of the profession that enabled Mr. STANSFELD to pass his Bill as it now stands. Mr. CORRANCE, M.P., denounced the Act as a "vast Government job"; and certainly Mr. STANSFELD'S present action gives a most plausible colour to the charge. Exceedingly valuable, also, were the opinions offered by thoroughly practical men like Mr. CEELY (of vaccination celebrity) and Mr. ALBERT NAPPER (the father of the cottage-hospital system); both of these experienced

sanitary workers described the present position of the local health officer as a perfectly impossible one.

Moreover, we believe that only half the story is as yet told, and that the indignation of the profession and of the public is likely to be stirred yet more strongly. We hear from all sides that the working of the sanitary machinery which Mr. STANSFELD has set up is already visibly tending to results which are not merely imperfect, but are positively the direct reverse of those which Parliament honestly endeavoured to secure.

THE 1st of October is a great day for Medicine in the large provincial towns as well as in London. As we cast our eyes over the proceedings connected with the opening of the Medical Schools of Leeds, Sheffield, Newcastle, and Birmingham, we seem to forget for a time the peculiar associations of these towns, and regard them as centres of medical education. There may be different opinions about the comparative advantages of provincial and metropolitan schools for the purposes of the individual student; but all will allow that it is a decided advantage to medicine and to the public that, in the principal towns of England, the leading members of the profession have to find time, not only to practise medicine, but to teach it. As an illustration of this remark we might refer to the address of Dr. HEATON, of Leeds, who was the teacher of many of the present teachers, and who yet discoursed ably on the most recent doctrines of disease. Were there no provincial schools we should have more routine in provincial practice and more carelessness in metropolitan teaching. And it is impossible to read the introductory proceedings, countenanced generally by the Mayor of the town and other leading personages, without perceiving that they are calculated to impress the public with the serious nature of medical work and the serious problems of medical science. The address of Dr. JOHNSTON, at Queen's College, Birmingham, in which he set forth the great subjects of medical study and their relation to each other, evoked a compliment from even so critical a hearer as GEORGE DAWSON. The address of Dr. ARNISON, of Newcastle, enjoining on the students to strive to fit themselves for their responsible work, and advising them to avoid technicalities of language, was endorsed by the Mayor, Mr. GREGSON, himself a leading practitioner; and was followed by an excellent address by the Rev. Mr. WAITE, of the Durham University, who, in urging the importance of intellectual attainments, reminded the students that LOCKE, the philosopher, was a great physician, and SYDENHAM, the physician, was a great philosopher, and that this combination was frequently found. Mr. MORTON, of Sheffield, gave an account of the origin of the College of Physicians, and of the various reasons for founding the provincial schools, ending with an allusion to the duties of medical men and the strides of medical science. Such addresses published in the local papers must serve to impress the public with the difficulties and dignity of the medical calling; and if they involve many confessions of the imperfections of both our art and science, they will only the more clearly mark the distinction between true medicine and all its specious and pretentious counterfeits.

This relation of the public to Medicine in the provincial schools should be an incentive to both teachers and pupils to run well, as they have begun well. After all, the public will judge of schools rather by what happens at the end of the session to the students than by what is said at the beginning by teachers. After the session come the examinations, and after the examinations comes the disclosure of the comparative successes of the students from different schools. Happy the schools which appear best in the returns of examination boards.

IN his recent report on Jersey from a Sanitary Point of View our Commissioner indicated that there was one good sign in the Island—namely, that the local press seemed fully alive to the evils set forth. Before the appearance of our Report there had been sundry letters in the local papers complaining of the prevalence of typhoid, diarrhœa, &c. The editor of the *British Press* pointed out in a clear and telling way the certain harm that would accrue to the reputation and the material interests of the island if its real sanitary condition should become known and remain unremedied. One would think that the instinct of self-preservation alone would lead men to make the place of their habitation as pure as possible and as free from all causes of disease, and, on it being shown that the air breathed and the water drunk were both liable to contamination, that citizens would vie with each other in clamouring for health laws. But it is not so. The causes of disease are too subtle and too capricious in their incidence to make any large number of men willing to spend ten minutes or ten shillings over an agitation for pure air or pure water. All men think all men mortal but themselves, and the fact that a man's neighbour has died of typhoid does not make an ordinary man much more of a sanitary reformer than he was before the death, or much more fearful of taking typhoid. But the editor of the *British Press* properly insists upon the fact that the material interests of the island must suffer unless its authorities remove the causes of the present mortality.

Let there be no mistake about the facts. The *British Press* and *Jersey Times* have copied our Commissioner's article at length, and very sensibly commented on it. But by a printer's error the figures were given incorrectly. Thus it is said that "in 1869 the mortality of Jersey was at the rate of 23·20 per 1000, and that of St. Heliers 23·18; in 1871 the mortality of Jersey was 21·42, and that of St. Heliers 26·04." The figures given in our Report were for three years—viz.: in 1869 the mortality of Jersey was at the rate of 23·20 per 1000, and that of St. Heliers 26·30; in 1870 the mortality of Jersey was 21·38, and that of St. Heliers 23·18; in 1871 the mortality of Jersey was 21·42, and that of St. Heliers 26·04. In other words, in two years out of three the mortality of St. Heliers was over 26 per 1000. And, from the tenor of the information given to our Commissioner, it does not appear that the death-rate of St. Heliers will be anything less this year than last.

The sanitary legislation of England does not apply to Jersey. And the people of the Island may, if they think fit, leave matters as they are, including the mortality of St. Heliers. We cannot believe that they will act so contrary to every consideration of self-interest, and the cou-

rageous and wise way in which our Report has been received and circulated in the island fills us with hope that we may soon be able to assure our patients that they may go to Jersey for the benefit of some diseases without the risk of contracting more deadly ones.

There are two or three things that must be done. Without any delay the registration of death, already done after a fashion, should be completed by requiring a medical certificate of the cause of death. This would be willingly supplied, if the law so demanded, by the medical men of the island. Until it is known exactly of what the people die it will be impossible to apply the exact remedies for the high mortality. Secondly, a Medical Officer of Health should be appointed for the Island, to note the occurrence of those peculiar diseases which indicate removable causes of unhealthiness. If a group of typhoid cases or of cholera cases happen in London, the medical officer of the particular district is informed, and special steps are taken—such as disinfection, cautioning the inhabitants against the use of suspected water, &c. But if there be no medical officer of health who understands the significance of particular diseases, then "the people perish for lack of knowledge." Finally, the requirement of a medical certificate of death, and the appointment of a medical officer of health, though steps essential to be taken, would not suffice unless a sanitary authority be created with large powers of compelling necessary changes in dwelling houses—such as the procuring of a sufficient supply of water from a pure source, the disuse of local wells shown or reasonably suspected to be tainted, the cleansing of privies pending the wholesale conversion of them into waterclosets, the plentiful flushing of these with water, &c.

Some people will object that these changes will cost money. So they will, except the medical certification of death, which will be done gratuitously by the great unpaid profession which we have the honour to represent. The little money spent on the other necessary changes will not seem much if it should make the mortality of St. Heliers equal to that of the Isle of Wight, which alone would save two or three hundred lives a year.

THE success of the British Association for the Advancement of Science has stimulated our neighbours across the Channel to imitate its constitution and proceedings; and the late meeting at Bordeaux may be regarded as representing the complete formation of the corresponding Association in France. Already upwards of 700 members have enrolled themselves on its books, and its capital amounts to 137,000 francs, or to between £5000 and £6000. M COMBES was originally nominated President, but died almost as soon as the Society was formed. M. CLAUDE BERNARD was then chosen, and is the present and practically the first president. He too, however, was unfortunately prevented by indisposition from making an inaugural address, and the duty devolved upon M. DE QUATREFAGES. In the course of this, after referring to the disasters of the country, he observed that in these days the greatness of a State is not measured alone by the extent of its territory or the number of its inhabitants, and competition does not take place alone on the field of battle. "Now more than ever the domain of intelligence, the platform of science, have also their battles, their victories, and their laurels. The scientific worker is also a soldier, and can experience the excitement of strife and the intoxication of success; but, more fortunate than the soldier, he has no general above him who can carry off the honour that should belong to another. However small may be his merit, he at least receives all the credit due to him. The successful worker, moreover, not only experiences the pleasure of gratified self-love, but he may feel also with patriotic ardour that his work reflects honour upon his country. ..... I have recently assisted at similar meetings," says M. DE QUATREFAGES, "in Belgium, Italy, and Denmark: the first, in the calm of her neutrality; the second, in the midst of her efforts to possess a new future; and the third, in grief and sorrow;—and find that they all obtain in the double love of science and of country stimulants or consolations unknown to ambitious egoism. At Brussels, in the celebration of the hundredth anniversary of the Academy, it was said, 'Belgium is but little in the political world, but it has enlarged that of the intellect, and shall do so still more.' At Bologna, in presence of the splendours of an extinct civilisation, they said, 'We will resuscitate it.' At Copenhagen they said, 'Denmark may perhaps disappear from the map; we will make it live again in our works.' France, too, has its bleeding wounds and material mutilation; to men of science it remains to bring noble compensation for its evils."

The sections into which the Association has been divided are nearly the same as those of the English Association—comprising mathematics and astronomy, navigation and the military art, physics, chemistry, meteorology and physical geography, geology and mineralogy, botany, zoology, anthropology, medicine, agronomy, geography, economy, and statistics.

At this the first meeting several general addresses were read: one by M. LAUSSEDAT, on the services that modern science can render the military art; a second by M. LE FORT, on reform of French military surgery. The papers read appear to have been both numerous and interesting. They include one by M. DUPUY, on animal heat; one by M. BITOT, on the use of veratria in cardio-vascular affections; and others on lympho-sarcoma, on the recovery of sensibility and motor power after section of nerves, on a new mode of termination of nerves, and on the physical contractility of the non-living animal tissues, by MM. TRÉLAT, RUDIO, BOUILLAUD, and others.

We can only wish the Association God-speed, and hope it will advance with steps as rapid as those of the British Association.

THE subject of coroners' inquests has lately been brought before the public by the lay papers; and the conduct of these inquiries has been somewhat severely criticised. We are told that the Coroner's Court has become a thing of the past, that it is constantly breaking down under the work which devolves upon it, and that it ought either to be abolished altogether, or at least reconstituted in harmony with modern requirements. We are disposed to think that this argument is in the main erroneous and misleading, and that it rests upon a mistaken view of the

functions which the court is intended to fulfil. These functions have, in truth, been much increased of late years, in consequence of the complex character of some of the recent causes of mortality; and the proper remedy for the evils complained of would be to restrict the coroner and his jury to the performance of their own duties, and to remit to other tribunals a vast mass of secondary matter with which the coroner should have no concern.

The object of a coroner's inquest is to determine "how and by what manner of means A. B. came to his death." The value of the institution depends almost entirely upon the protection to life that is afforded by the general knowledge that an inquiry will be made into every death the causes of which are neither apparent on the surface, nor certified by respectable and trustworthy people; and the use of inquests is emphatically as a safeguard against the destruction of life by secret means, such as might otherwise escape without detection, and also against the confounding of murder with suicide. If a person supposed to be in health dies suddenly, it is the proper business of the coroner to ascertain how he came to die; and, if a person is found with his throat cut, or drowned, it is the proper business of the coroner to determine, if possible, whether the deceased destroyed himself or was destroyed by others. In either case, if the verdict should involve foul play, we have an abundance of judicial machinery by which any question of criminality may be taken up; and the verdicts of murder or manslaughter now returned against individuals are not only wholly useless and uncalled for, but they do in many cases interfere with the course of justice in a highly objectionable way. In like manner, when death is brought about by some manifest means, such as a railway collision, an inquest is the merest farce; and is only rendered more absurd by the jury hearing the evidence of experts about the remote causes by which the collision was produced. These causes are proper to be inquired into by the ordinary civil or criminal tribunals; and it is preposterous to hold inquests in cases where the "how and by what manner of means" are self-evident. If A. B. is crushed into fragments by a steam engine, any person can prove what was the cause of his death. The reason why the steam engine crushed him is one that should, from the very first, be investigated by a higher tribunal.

We hold, therefore, that the blame now so freely awarded to coroners and their courts should be awarded, in point of fact, to those who have suffered them, in the progress of civilisation, to be encumbered with many things which are wholly beyond their province. We look upon an inquest as essentially a medical tribunal convened to investigate the immediate causes of death, and calculated not only to keep poisoners, child-murderers, and such people, in wholesome dread, but also to intervene happily between the police and the discovery of mares' nests. When Mr. JONES, who has notoriously lived unhappily with his wife, and whose wife is known to have purchased ratsbane a month before, is found dead in his bed, the coroner determines that there is no ratsbane in his stomach, and that there is an apoplectic clot in his brain. Upon this, poor Mrs. JONES, who very possibly bought the poison with a view to take it herself, is relieved from a stigma which might otherwise have clung to her, or which might have even brought her to trial, and is permitted to enjoy her freedom undisturbed. So also, when the mortality in some particular family or neighbourhood assumes a remarkable character, the coroner is of use by discovering arsenic in the body of one of the recently deceased. He then exhumes and examines other corpses also, and very possibly brings to light an artistic system of murder, which it should then devolve upon the police to bring home to the persons concerned in it.

Regarded from this point of view, it is plain that the Coroner's Court needs chiefly to be disburthened of duties wholly irrelevant to its usefulness and wholly beyond the proper scope of its powers. It should be made, in point of fact, the complement of a system of registration of the causes of death, rather than a tribunal for the commencement of investigations concerning all kinds of questions, on none of which its verdict is accepted as final, and on most of which it comes into collision with a magisterial bench, or with some other court of first instance of a strictly judicial character.

Medical Annotations.

"Ne quid nimis."

THE ADULTERATION ACT.

SEVERAL of the comments which have recently appeared relative to this Act have been founded on error and misapprehension. Thus it has been stated that the punishment for adulteration is for the first offence a fine of £50, and for the second imprisonment for a period not exceeding six months. Now, it should be known that these penalties are reserved only for the actual perpetrators of a special kind of adulteration—namely, that which is injurious to health. For the sale of adulterated articles, no matter whether injurious or not, no punishment whatever is provided, unless knowledge can be proved on the part of the vendor—a most difficult thing to establish. This we regard as the great blot of the Act, for doubtless at least ninety per cent. of the adulterations now practised, even if discovered, will go on, as heretofore, unpunished. Next, it has been stated that the appointment of the official analysts rests with the adulterators themselves. Now, these appointments rest in England with the "vestries and districts board," "Court of Quarter Session," "Town Councils of boroughs," &c., and these are the authorities mildly and charitably described by some commentators on the Act as "the adulterators themselves." But should these bodies fail voluntarily to appoint analysts in their several districts, then the Local Government Board may compel them to appoint such analysts, it being further provided that "such appointments and removals shall at all times be subject, in England, to the approval of the Local Government Board;" so that the Board has full control, and if analysts are not appointed, the fault will lie with the Board alone. There seems, however, to be some better foundation for the statement that prosecutions under the Act can only be instituted on the reports of the official analysts, and that the reports of non-official and independent chemists will not be receivable as evidence. If this really be so, the Act will assuredly not be nearly so effective as it would be without this limitation, and an injustice will be perpetrated on the great body of independent and unofficial chemists and analysts of the country. We have good hope, however, that even this interpretation of the Act as to analysts will turn out to be

erroneous; for it is expressly provided,—"That nothing in this Act contained shall be held to affect the power of proceeding by indictment, or to take away any other remedy against any offender under this Act."

Notwithstanding some serious defects in the measure, we yet anticipate, especially if the Local Government Board does its duty by acting up to the powers entrusted to it, that great gain to the public will result from its operation.

A SURE TEST AS TO WHETHER LIFE IS EXTINCT OR NOT.

To the last number of Virchow's *Archiv* Dr. Hugo Magnus, of Breslau, contributes a paper on this subject entitled "Ein sicheres Zeichen des eingetretenen Todes für Aerzte und Laien," which has some interest, at all events, from a medico-legal point of view. It seems that a prize had been offered a few years ago by the Académie des Sciences of Paris for an essay on this subject, and that Dr. Magnus had undertaken researches with a view to competition, but that the unfortunate events of the year 1870-71 prevented the laying of the results of his work before the Academy.

Dr. Magnus claims an absolute certainty for his method, which has the merit, moreover, of such simplicity that it can be carried out by those who have had no medical education. After briefly passing in review all that has been written on the subject, and paying a tribute to the excellence of Van Hasselt's "Lehre vom Tode und Scheintode" (Braunschweig, 1862), and also premising that, in investigations of such kind, it must ever be borne in mind that there is always the possibility of our having to do with a still living body, which lies, however, under very peculiar circumstances and conditions, he proceeds to ask, To what system, then, must we direct our attention—to that of animal or that of vegetative life? To the latter. In short, here are to be found single systems the functions of which will bear being reduced to a minimum, but, upon the stoppage of which, death follows immediately. Now, there are two systems the functions of which are never quite in abeyance, if the animal organism is really yet living; these are the circulatory and respiratory systems, for, "in general we must regard breathing and the circulation of the blood as identical with life; death being, on the other hand, synonymous with the stoppage of these functions."

Investigations directed to the circulatory system have always been of favourite employment, such as the old procedure of bloodletting and puncture of an artery, as well as the compression of the larger veins by a bandage, or Brachet's method of puncturing capillaries; but none of these are any certain criterion. Dr. Magnus, on the other hand, has a very simple method of clearly showing whether the circulation is or is not being carried on—that is, whether life is not or is already extinct:—

"If a limb of the body—a finger is best for the purpose—be constricted by a strong ligature, quite tightly, there will, if the subject be yet alive, be seen a reddening of the constricted member. First the part in question becomes red, and then the red colour becomes darker and darker, and deeper in hue, till it is finally converted into a bluish-red, the whole limb being, from its tip to the ligature which encircles it, of a uniform colour, except that at the region immediately round the ligature itself there is to be seen a narrow ring, which is not bluish-red, but white."

This, however, cannot be so clearly demonstrated on the finger of a "horny-handed son of toil," in which case some other limb must be chosen which has a thinner skin. As sure, too, as this bluish-red colouration is brought about in the living body, so certainly does it always fail to be present in the corpse, as Dr. Magnus has substantiated by a number of experiments on the dead body, in all of which this operation was attended with negative results. The bluish colouration of the nails or of the finger-tips, so often seen on the dead body, as well, too, in certain cases of blood-disease, need not be regarded as any source of fallacy, for, after the ligature of a finger, as long as life remains in the body, the whole of the limb, from the place of ligature to the extremity, will be uniformly blue-red, but if the colouration do not take place, or only at a circumscribed spot on the limb, it can be with certainty concluded that the spark of life is extinct.

Dr. Magnus then proceeds to show how that these appearances are perfectly reconcileable with what is taught of the physiology of the circulation, and recommends, in conclusion, that large limbs, such as the arm or thigh, had better not be chosen, because complete constriction cannot be practised here so effectually, the numerous large deep-lying veins of the muscles not being affected enough by the ligature. Fingers—at the middle phalanx—and toes are the best for the purpose, for these members are slender, and the soft parts can be easily compressed against the subjacent bone; but the lobe of the ear may be employed when the skin of either of these members is too thick, or if for other reasons they cannot be made the subject of experiment.

VENTILATION OF LAW COURTS.

THE death of Justice Willes by his own hand is generally, and we think truly, regarded as the result of mental aberration consequent upon physical disease incurred, or at least intensified, by secondary causes. Among these the bad ventilation of the law courts in which he spent so much of his intellectual activity is undoubtedly one. Why it is that these places of resort should, as a rule, be well-nigh poisonous to their inmates from their foul air is a mystery to the medical mind. Dr. Angus Smith, in his classical work on "Air and Rain," records a visit to a London court which at the moment of entering was extremely warm and unpleasant, and after some minutes intolerable. He stayed long enough to collect specimens of the air, which he found, on analysis, to contain a smaller amount of oxygen than any place above ground, "except the gallery of an extremely crowded theatre at half-past ten at night." But, he adds, the court air was still worse than that of the theatre, its temperature being very high, and the organic matter from perspiration in proportion. A handkerchief which had wiped from one of the windows a little of the animal steam by which they were dimmed smelt offensive afterwards. Law reform is a large subject, but the improvement of the courts in which it is administered ought to find a place in its programme. We are afraid to think of the valuable lives which may be slowly yielding to influences like those so disastrous to Justice Willes—bad air breathed during mental strain of the severest kind. How long will it be before the judge on the bench is as well off in the matter of oxygen as the prisoner in the gaol?

OUR BIG INDIAN BARRACKS.

THE readers of THE LANCET are pretty well acquainted with our opinion of the big barracks which have been constructed in India of late years, in a great measure out of deference to the views of sanitarians in this country, who considered that their total ignorance of the Indian climate ought not to be any bar to their dogmatically laying down what should be done there. According to the *Times of India*, it is now generally admitted that these massive upper-storied barracks are gigantic mistakes. They are said to be hotter in summer and colder in winter than the less pretentious structures of former days; and experience has

demonstrated that they afford no increase of protection from epidemic disease proportionate to their size and costliness. One of the main objections to these buildings arises, it seems to us, from the fact that whether the military stations where they exist be healthy or the reverse, or of importance in a strategical point of view or not, they must nevertheless continue to be occupied. After the outlay that has been incurred in the erection of such barracks, it is hopeless to expect that the Indian Government will ever consent to their remaining empty. We feel convinced, however, that practical men look to the increased occupation of the hill stations by our European soldiers for a diminution of the sickness and mortality among them. We quite agree with our contemporary in considering that whatever might be said in favour of barracks constructed with upper stories for the plains, they were unnecessary on the hills. The fact has to be learnt, moreover, that a site or building may at any time prove unhealthy, and that both are very likely to become so from the effects of long occupation. There is, after all, no more practical method of procedure under such circumstances than to quit the old and take up new ground; but this is hardly likely to be done when the pecuniary loss involved is great, as it would necessarily be in the case of having to abandon big and elaborately constructed barracks. Would it be impossible to employ our troops in erecting inexpensive structures for themselves in more elevated and suitable positions?

THE TIVERTON INFIRMARY.

THE recent appointment of a youth alleged by the local papers, but surely untruly, to be sixteen, to act as house-surgeon to the infirmary at Tiverton, after a grave advertisement in our columns inviting strangers, to which several qualified gentlemen, one at least with high testimonials, responded, has occasioned great surprise, not only amongst the medical staff, but amongst the public of Tiverton. Anything more unreasonable in the shape of a public appointment could scarcely be conceived. The success of operations and the general welfare of patients depend immensely on the efficiency of the resident surgeon. Between the visits of the honorary officers there is time for the development of all kinds of complications and new symptoms, the right or wrong treatment of which may involve the life of the patient and the credit of the surgeon. The committee of the infirmary of Tiverton have appointed as house-surgeon a youth whose professional training is said to have consisted only of fifteen months' experience in compounding drugs. He was articled pupil of one of the staff, and son of a member of the committee. We should also say that he was the brother of the retiring house-surgeon, also unqualified. All the medical staff, save the one whose pupil has been appointed house-surgeon, have resigned. And properly so. One of the local papers seems to think this step unkind to the patients and the institution. It is the very reverse. There are times in most hospitals when a loud protest is called for, and strong steps are necessary to make it understood that these institutions are meant for the advantage of the sick. And it seems to us that this affair at Tiverton constitutes such an occasion. The medical staff, save one, had requested the insertion of an advertisement in THE LANCET offering a salary of £80 a year, which was £20 more than the retiring house-surgeon had. The insertion of such an advertisement should have been followed by the appointment of the best man. To insert it and then appoint a youth who could have been had without any advertisement was highly disrespectful to the staff, and unfair to the other candidates. In the name of young medical men whose fathers' pockets have been wellnigh emptied by the expensiveness of medical education, we protest loudly against advertisements drawing them into costly local contests, unless local considerations are going to be disregarded. The only conceivable apology that could be made for this step has been put forward—namely, that the hospital cannot afford a house-surgeon, but only a dispenser. But this defence is untenable. £80 was offered, and good candidates offered themselves for the work. We entirely approve the action of the staff, and urge them to refuse to withdraw their resignation till a proper appointment is made.

LORD DERBY ON LIFE AND LABOUR.

LORD DERBY was accused by one of our leading journals the other day of being "too sensible." We only wish the majority of publicists had "half his complaint." No statesman speaks with juster insight or with cooler temper on the sanitary and social state of things around us; none takes a truer estimate of the difficulties to be removed or the remedies to be adopted. His speech delivered before the Chamber of Agriculture at Preston on Saturday was in admirable keeping with all his recent deliverances on the best mode of legislating for the labouring classes, so as to secure them healthy homes, sufficient incomes, and all the social and sanitary blessings these conditions bring in their train. With a view to this consummation there is a great deal of benevolence adrift; but if its schemes will not bear the test of actual work, they must be unhesitatingly condemned. To lighten the overcharged labour market, with its thousand and one evils, sanitary and other, emigration is a vaunted panacea; but those who are loudest in its favour are simply trying to get the surplus labourers out of the way, that there may be higher wages for those who stop behind. Emigrants have a far rougher time of it than their patrons imagine, and their exodus is but a sorry solution of a difficulty which it would cost the capitalist some sacrifice to solve in other ways. Emigration, in fact, has often come to mean nothing more than eviction—

> "Pellitur paternos
> In sinu ferens deos
> Et uxor et vir sordidosque natos."

Passing to the subject of labourers' cottages—another sanitary *crux*—Lord Derby held that the landowner should retain the control of them, and not lease them to the farmer who holds the adjoining land. The sanitary improvement of these dwellings is far more practicable under the former than under the latter. His lordship's speech may be regarded as the finale of a series on the questions that lie at the base of sanitary and social reform, and in connexion with its admirable predecessors on the founding of Bootle Infirmary, and on the co-operative scheme for the improvement of working men's homes at Liverpool, should be consulted by all sanitarians as embodying the true spirit in which their labours should be carried out.

ALLEGED WHOLESALE POISONING.

THE history of Mary Ann Cotton, now a prisoner in Durham Gaol, charged with the murder of her step-son by poison, so far as it has up to the present time been investigated and made public, reveals possibilities of guilt, which, if they hereafter become certainties, will assign to her a conspicuous place in the world's "Chamber of Horrors."

A most extraordinary fatality has attended the family relationships of this woman, she having since 1851 buried three husbands, fifteen children or step-children, her mother, and a lodger in her house. There are some very remarkable circumstances attending not a few of these deaths; at least, they strike us as such when we look down the long list and observe their rapid succession. It is not a little strange,

too, to read that suspicions were not only aroused in the minds of members of her family, but were actually avowed to the woman herself, that some of her children had not come fairly by their deaths; yet no steps seem to have been taken to clear up these horrible doubts. Her third husband, who had seen four of his children drop off within a twelvemonth, and had detected her in an endeavour to insure his own life, appears to have made her so clearly understand that he had his suspicions about her, that she absconded from him. One would have supposed that, regarding her flight as evidence of guilt, he would have at once put the matter to proof by communicating with the police. No endeavour of the sort seems, however, to have been made, and the woman, in less than five years, marries another man, a widower, with two children, all of whom are dead, and a lodger in the house besides. Only till something in two of the latter deaths gave rise to suspicion were her proceedings ever brought under notice of the officers of justice; and it is stated that, traces of poison having been found in both bodies, the exhumation of others will follow. It does not appear that there was the least attempt at secrecy in respect of any of the deaths, which seem all to have been registered in due course, and several of them to have been certified by medical men as resulting from gastric fever. Upon this latter aspect of the case it would be obviously improper for us to comment in the absence of those explanations which, no doubt, will be forthcoming as the case proceeds, and which are essential to a right appreciation of the efficacy or otherwise of our present system of death registration as a means of preventing crime.

CAFEINE.

IN a recent number of *Pflüger's Archiv* Dr. Aubert describes some researches on this substance. Seeking to ascertain the proportion of cafeine or theine in a cup of coffee or tea, he arrived at numerical results somewhat above those of his predecessors. According to him, a cup of coffee, forming an infusion of 16·75 gr. of dry coffee grains, contains about 0·1 gr. to 0·12 gr. of cafeine; and an infusion of 5 gr. to 6 gr. of dry leaves of very good tea contains about 0·1 gr. to 0·12 gr. of cafeine.

He studied the effect of this alkaloid on the nerves, muscles, respiratory movements, heart, and circulation. Cafeine increases the reflex excitability, and may produce tetanus. Dr. Aubert, with most authors, considers this a medullary tetanus; for it is not produced in the leg of a frog, if the ischiatic nerves are cut, and it takes place in a limb the circulation in which has been stopped by a ligature before subcutaneous injection of the cafeine into the skin of the back. An injection of 0·005 gr. into the skin of a frog, 1·20 gr. into the jugular of a rabbit, 0·200 gr. into the jugular of a dog or cat, produces tetanus. Dr. Aubert did not observe the weakening of excitability of the nerves referred to by Voit and others. According to him the nervous excitability is altered only in the case of the nerve being plunged directly in a solution of cafeine. The muscular excitability is not affected so long as the cafeine is not applied to the muscles themselves.

Confirming Uspensky's experiments, Dr. Aubert shows that the production of apnœa by means of artificial respiration counteracts the development of the convulsions produced by cafeine—a phenomenon similar to that which Rosenthal was the first to apply in cases of strychnic tetanus, and which appears to be applicable to all tetanus produced by reflex influence. As to the doses necessary to kill an animal apnœised, they were various; 3 gr. of cafeine did not kill a dog of 10 kilos. in which artificial respiration was produced. Other dogs in the same conditions succumbed to an injection of 0·25 gr. of cafeine. Cafeine at first produces an increase in frequency of the pulse, but a diminution of its bulk takes place very quickly (one minute after the injection), and sometimes determines the immediate death of the heart. Small doses, 0·1 gr. to 0·15 gr., injected into the skin produce no effect on the heart of a rabbit, while a dose of 0·25 gr. causes an acceleration of the heart and the respiratory movements. The increased rapidity in the heart beats and the rise of arterial pressure observed may be attributed, Dr. Aubert thinks, to a paralysis, more or less complete, of the nerves proceeding from the ganglia to the muscles of the heart and an excitation of the arresting apparatus of the heart. He does not agree with those who say it is cafeine which gives to coffee its principal qualities. He thinks the reviving action of coffee, which makes it such a favourite beverage, is not yet scientifically explained.

THE PROGRESS OF CHOLERA IN INDIA.

FROM a communication received by the last mail we learn that cholera is still prevalent in several places, especially at Mecan Meer, where the British troops have already lost upwards of ninety, chiefly of the 37th Foot. The first move to temporary barracks in the neighbourhood of that station not having been successful, detachments were sent by rail to long distances, in the Mooltan direction, with better results. At Allahabad the disease, after carrying off a judge, two chaplains, a staff assistant-surgeon, and a considerable number of the 2nd Battalion 19th Regiment, was dying out. It still prevailed at Kussowlie and Dugshai, where there were several camps, but had quite disappeared at Subathoo. Careful quarantine had done much for Subathoo and for Umballa; the latter station had, however, been attacked at last. Cholera had almost died out at Lucknow, and hitherto the garrison at Morar had been spared; but the civil population at Gwalior was suffering. Murree had been attacked, and Rawul Pindee and Peshawur are threatened. By the latest accounts cholera was rapidly increasing in the Punjaub, the city of Lahore being the chief sufferer. In Bokhara 200 deaths were reported daily. One of the most remarkable features of the present epidemic has been the relatively greater prevalence of the disease among the married families. The number of casualties among them everywhere has been disproportionately large; at least, this is stated to have been the rule from Allahabad to Murree.

AID SOCIETIES IN THE LATE WAR.

THE German associations for tending the sick and wounded during the late war have just issued their report, containing minute and comprehensive details of the societies' depôts in those districts of France occupied by the French armies, of the hospitals throughout the Fatherland, of the steamboats they chartered, and the sanitary trains they kept plying, for ambulance purposes. The magnitude of the societies' operations may be realised from the entries of sick and wounded soldiers which stand on their books to the number of 509,837, whereof 60,000 were French. The income of the central committee at Berlin has in all been £2,735,651, of which sum Germany contributed £1,541,101; Europe £74,750, including £26,200 from Great Britain and Ireland; America £214,000; Asia £17,200, of which £1580 came from the British Indian army; and Australia £6110. The subscriptions of the German committee in London exceeded £40,000, the German Turverein in the metropolis collecting £2000, along with useful articles amounting to the same sum in value. The societies, after all expenses, now find them-

selves with the balance of £52,000. So signal have been the benefits vouchsafed by them, that they intend not only to preserve, but to improve their internal arrangements, so as, in the event of another war, to alleviate with even more efficiency the inevitable suffering. Their organisation will be perfected by the training of as large a number as possible of nurses and sick-bearers, to whom at the same time instruction in medicine and surgery will be given, as well as useful hints in cases of emergency, accidents, the hygiene of their respective towns, diet, and the prevention of zymotic disease. The report, which contains much interesting matter respecting the English, American, Belgian, Swiss, and other aid charities, concludes with the hope that the societies whose operations it embodies may become truly international, performing their hallowed work without respect of race or colour, but for the good of all mankind.

NEW YORK HOSPITALS.

THE enormous death-rate in the "Empire City" within the last few years has caused the erection of four new hospitals, which, like their fellows of older standing, differ in some important particulars from those of London and Paris. In the two latter cities, the hospitals administer to the relief both of in-door and out-patients; in New York they care for in-door patients almost without exception. In London and Paris, the hospital and dispensary, being united under one general system and order, constitute one establishment; in New York the dispensary is separate, where the out-door poor apply for medicine, advice, and treatment, whether surgical or medical, all three being given gratuitously. The following statistics will enable the reader to estimate the burden these dispensaries lift from the hospitals:—

	Patients.
Five general hospitals under control of New York City Government, reported in 1871 ...	18,919
Five for special diseases	4405
One for emigrants (Ward's Island)	7904
One for coloured persons	435
Eight for denominational and foreign nationalities	6065
Total	37,723

According to this table, there are twenty hospitals now in effective operation in New York. There are eight minor hospitals for special purposes, having an aggregate of about 1000 patients. There are also in working eighteen dispensaries, including four "homœopathic institutions," which reported for 1871 an aggregate of 250,000 patients. The foregoing official figures show that the dispensary patients in the same number of institutions were nearly sevenfold greater than the number of hospital patients.

HYDROPHOBIA.

THE frequent occurrence of cases of hydrophobia recently has re-opened the *quæstio vexata* as to its nature and cure. To what we said on the subject in THE LANCET for April 13th, 1871, when we recapitulated the opinions of the principal physicians in Germany and France, we have nothing to add. "Of the hydrophobic virus we have not even the trace of a conception;" and in our ignorance of the bane, it is idle to adjudicate between "antidotes." Of these, indeed, we have had no lack; but in the cases of none of them has the efficacy been scientifically proved. Nor is it only that the antidote is inefficacious, but the superstitious faith in its virtue postpones till too late the use of the only feasible remedy—viz., the immediate suction and effectual cauterisation of the bitten part. We are glad to have confirmation of our opinion from a gentleman so skilled in the habits and ways of dogs as Mr. Grantley Berkeley. That authority mentions, as a "common mistake," the confounding of "distemper madness" with hydrophobia; and, while asserting the non-curability of the latter, points out that its so-called "antidotes," if efficacious at all, have proved so only in the case of the former.

CHIMNEY-SWEEPS.

AN inquest was held on Tuesday, the 1st inst., at Gateshead, on the body of Christopher Drummond, eight years old, and in the employment of Thomas Clark, chimney-sweeper. On Saturday Clark was sweeping a flue, and under the impression that it was blocked up by a stone, he sent the boy four yards up the flue to remove the supposed obstruction. In fifteen minutes the boy was taken out dead. After hearing evidence, the jury were of opinion that death had resulted from suffocation, and returned a verdict of manslaughter against Clark, who awaits his trial at the Durham Assizes. Such is one instance of the evasion of that law which Lord Shaftesbury carried nineteen years ago, by which chimney-sweeps were forbidden under heavy penalties to employ children. We say one instance, because, though the practice of sending boys up flues is discontinued in London, where detection is easy, it still remains in the provincial towns, where detection is difficult. Manchester, Nottingham, and Sheffield, for example, still allow the abominable practice to prevail to a frightful extent. Well may Lord Shaftesbury ask what are the school-boards of those towns about? Do they allow climbing flues to be compulsory and education to be permissive? Nor, we fear, is evasion of the law confined to the Chimney-sweepers' Act. *Ab uno disce omnes.* All measures for the protection of those who cannot protect themselves are liable to be infringed by selfish employers, and local authorities are peculiarly bound to see that the provisions for the health and the normal development of our juvenile population are rigorously enforced.

ARMY MEDICAL OFFICERS' FORAGE.

WE called attention some time back to the new regulations for forage, the issue of which seemed to us altogether irregular in this respect—that the provisions of a Royal warrant have been quietly overridden and superseded by a War-office circular. According to Clause 158, Army Circular, October, 1872, it is laid down, under the head of forage for the horses of non-combatants, that

"The grant to an assistant-surgeon, Field Brigade, Royal Artillery, of forage, or an allowance in lieu thereof, for a horse, either at home or abroad, notified in paragraph 11, clause 135, Army Circular, 1872, is cancelled."

As to medical officers receiving all the allowances of their rank, it is clear that they do nothing of the kind. As regards assistant-surgeons, although they are not entitled by their rank to a horse, we can readily imagine that their duties may require them to keep one; and if they happen to have purchased horses on the strength of their being allowed to draw forage, it seems uncommonly hard that they should be suddenly deprived of it.

THE MACCLESFIELD INFIRMARY.

A NOTABLE addition has just been made to English provincial hospitals by the erection of an infirmary at Macclesfield, which was opened on the 2nd instant by Lord Egerton of Tatton, the Lord Lieutenant of Cheshire. The institution had its origin in the liberality of the late Mr. Tunnicliff, formerly a manufacturer in the town, who bequeathed £30,000 in trust to the Mayor and Corporation, the income to be applied to the maintenance of an infirmary, if one should be erected within a given term of years. The neces-

sary steps were at once taken to render the bequest available, and considerable sums were subscribed for the purchase of a site and for the construction of a building. The architect selected was Mr. James Stephens, of Manchester and Macclesfield, and he has produced an infirmary that is not only an ornament to the town, but that is also very carefully designed to meet the special objects it is intended to fulfil. It has space for 116 beds, and of these 39 have already been fitted up for the reception of patients. The opening day was observed in Macclesfield as a general holiday; and it is gratifying to add that a system of ward collections, chiefly among the working classes, has produced no less a sum than £1745 1s. 10d. in aid of the expenses of the charity. We have not yet seen anything about the election of the medical staff, which will, we presume, be vested in the Mayor and Corporation. In some places where this arrangement obtains, the infirmary appointments have come to be considered as the legitimate spoils of a political party; but we hope that in Macclesfield wiser counsels will prevail, and that the elections will be governed by merit and ability alone.

THE MEDICAL CLUB.

A GENERAL MEETING took place at this Club on Wednesday last; and we are glad to state that it seemed to be the unanimous opinion that the present arrangements were established on a satisfactory basis. The proprietor, Capt. D. V. Valpy, has renewed the lease of the present premises, and we have no doubt the number of members will considerably increase. It is probably not generally known that this Club, though bearing the name of "Medical," admits officers of the army and navy, as well as literary and scientific men of other professions.

MEDICAL PRACTITIONERS AND THE VACCINATION ACT.

MANY burdens are put on us, and grievous to be borne, by the Legislature. We submit, in a temper of public spirit, to write all sorts of certificates gratuitously for the information of the State. But it is rather too bad that for slight informalities in these we are liable to have to pay. Mr. James Holt, of Castleford, a medical practitioner, but not the public vaccinator, was summoned for not giving to the parents of a child named John Thomas Ware a certificate of the successful vaccination of the child, in the proper form, and duly filled up and signed by him at Castleford, on the 4th ultimo. It appears that the defendant had made out a certificate, but it was not in proper form; hence Mr. Lowden could not receive it. The case was compromised on payment of the costs by the defendant. If the law here is not perfectly monstrous, the application of it is so. Whoever is responsible for trials of this sort has much to answer for. If there is any informality in a certificate, especially a gratuitous one, the proper course is to seek its rectification by other than legal courses. Such legal proceedings are more calculated to frustrate the Vaccination Act than to further it.

THE IMPERIAL MEDICAL SOCIETY OF THE CAUCASUS.

WE are gratified to note that this Society has elected Mr. Netten Radcliffe to be a corresponding member of its body, in recognition of the great value of the suggestions contained in his report on the Recent Diffusion of Cholera in Europe. This is not only a well-merited tribute to the patient sagacity with which Mr. Radcliffe has worked out some of the problems connected with the propagation of the disease, but it is also an evidence that the medical profession in the Caucasus will be on the alert to observe and record all facts that have any bearing upon the conveyance of cholera through that territory by the new route, to which Mr. Radcliffe has called attention.

THE PITCHERS OF NEPENTHES.

IN a paper read before the late Scientific Congress at Bordeaux M. Faivre gives the results of his researches upon these curious structures. They represent, he observes, a leaf, of which the edges are rolled inwards, so that the superior surface of the leaf corresponds to the interior of the pitcher and the inferior surface to the exterior. The interior of the pitchers is lined by a layer of polygonal cells, but there are neither hairs nor stomata. The lower part is of considerable thickness and consistence, and contains a number of glands that secrete a fatty substance, which forms a kind of varnish over the surface. The watery fluid with which the urns are partially filled is produced by the plant itself, a certain quantity being formed whilst the operculum is still tightly applied to the mouth. It is secreted chiefly during the night. A plant deprived of water absorbed some of its own fluid, but, upon being exposed to a very moist air, reproduced two cubic centimetres in twelve days. He regards the fluids contained in the urns as being merely the stored-up ordinary transpiration of the plant.

METROPOLITAN FEVER AND SMALL-POX HOSPITALS.

AN official return relative to these hospitals has been recently published. From this it appears that the Hampstead Hospital was opened for cases of small-pox on the 1st December, 1870; and that a total of 7276 cases were received up to the 24th June in the current year, of which 78 were admitted without order from the relieving officers. Homerton Hospital was opened in February, 1871; and has received, up to the date in this year above-mentioned, 2684 cases of small-pox and 1706 of fever. The establishment at Stockwell was opened for small-pox cases at the end of January, and for fever cases in March, 1871; and has received 2641 of the former, and 1858 of the latter. A total of 4492 appeared on the medical officers' list, or otherwise in receipt of relief, immediately before the orders for their admission were given; and in 191 cases the cost of maintenance at the hospitals has been repaid to the guardians, the total amount repaid amounting to £258 16s.

ANONYMI.

WE have lately seen a circular which has been issued by the "directors" of the "Cavendish Medical and Surgical Home," and from it we learn that "this institution, which is under the direction and immediate supervision of a distinguished medical staff," not only supplies trained nurses to persons requiring them, but also "affords the best accommodation to ladies and gentlemen seeking medical advice." The names of the "directors" are not published, and the distinguished gentlemen who are ready to give medical advice retain a strict *incognito*. It is absurd to suppose that this institution will meet with any support from the profession as long as a secrecy which ought to be needless is maintained.

THE Thames Shipping Inspection Committee, at its concluding meeting at the Guildhall, endorsed all the arrangements that had been entered into with the Admiralty and the Privy Council for providing a cholera hospital on the river, and for ensuring the prompt isolation of any case of the disease which might be imported.

AT the St. George's (Hanover-square Union) Board of Guardians, Mr. Fleming, according to notice, moved—"That the practice of handing over poor persons suffering from temporary insanity to the parish medical officer with the understanding that he is to be paid if he fail, and not be paid if he succeed in restoring them, is so opposed to common prudence, common sense, and common humanity, it is hoped the Local Government Board will see that it be discontinued." The notice was adopted with a slight modification, the Local Government Board being asked whether it approve this system.

THE Fellows of the Royal Medical and Chirurgical Society met for the first time this session on Tuesday evening last, when a paper of some considerable interest was read by Mr. B. W. Dalby "On Non-purulent Catarrh of the Middle Ear, and its Treatment."

AT the last Quarterly Court of Governors of the Newcastle General Infirmary Dr. Charlton suggested that the House Committee should take into consideration the propriety of using condensed milk for the purposes of the infirmary.

THE mortality last week of London and twenty other large towns was at the rate of 23 deaths to every 1000 of the estimated population. The deaths in the metropolis (20 per 1000) showed a diminution of the average number in the corresponding period of the last ten years..

AT Malmö a post-mortem examination of the King of Sweden disclosed chronic inflammation of the entire alimentary canal, with sporadic ulceration. Milk had for a long time been the only nutriment his Majesty could take.

MR. ERASMUS WILSON has just paid over to the Council of the Medical Benevolent College upwards of £5000, to build a master's house to accommodate boarders. The first stone is to be laid this day (Friday).

THE biennial dinner of the St. Mary's Hospital Medical School took place at Willis's Rooms on Wednesday, October 2nd, H. Spencer Smith, Esq., senior surgeon to the hospital, in the chair.

THE report of the Oxford delegates on the "unattached" student scheme states that a careful student can get through his Oxford career for a sum not exceeding £50 a year.

SIR WILLIAM HAMILTON has suffered so severely at Simla from dengue that he shortly intends coming to England.

AGRA is said to be so completely prostrated by dengue that public business is quite at a standstill.

NEW MEDICAL STUDENTS.

THE following are the returns which we have received from most of the metropolitan medical schools, showing the number of new students which have entered at each up to Thursday morning last:—Guy's, 83; St. Bartholomew's, 81; University College, 74; St. Thomas's, 51; St. George's, 49; King's College, 38; the London, 32; Charing-cross, 27; St. Mary's, 22; Middlesex, 17; and Westminster, 5. With the exception of St. George's, which has nearly doubled this year, the numbers remain almost the same as last year. Guy's, which at a corresponding period of last year was third, now heads the list; and St. Thomas's has nearly the same new entries as last year.

THE VOLUNTEER VISIT TO GHENT AND BRUSSELS.

THE following medical report has been laid before the Anglo-Belgian Council:—

SIR,—I have to report, for the information of the Anglo-Belgian Council, that, in conformity with their appointment, I took charge of the medical staff, and that during the visit to Ghent the following cases required attention:—Three cases of epilepsy, two of them of a somewhat severe character, all rapidly improved, and were about the next day; one of inflammation of the tongue; many cases of sore-throat, due to severe fluctuations of temperature, the dust and draughts of cold air at the Tir, and the enthusiasm of the national cheer (some were complicated with bronchitis); several cases of diarrhœa, from change of living, irregular and unusual diet; some severe cases of sprain from falls, and several slighter from the unevenness of the pavement; a few cases of contusion, two of boils, and one of whitlow, all quickly recovered.

Although provided with a large supply of Kirby's "Ready Remedies," various prescriptions required to be dispensed; and I am pleased to have the opportunity of thanking Mr. Puls, 6, Place de Calambre, not only for his care in dispensing the English prescriptions, but also for his liberality in refusing to charge the Council anything for the same. I have also to thank the medical authorities and others for so kindly showing us over the civil hospital, the lunatic asylum, and the prisons, which are all, in construction, cleanliness, and ventilation, perfect models for others to follow, and also for placing a ward at the hospital at our disposal.

I could wish that the knowledge of the disinfecting uses of dry earth, carbolate of lime, &c., was more extended in this city of Ghent, as the stench of the latrines and closets attached even to the more pretentious hotels was much complained of by our volunteers.

During the week at Brussels the health of the volunteers decidedly improved (probably the result of acclimature), notwithstanding the continuance of banquets, balls, and fêtes. I have only to report a case of syncope, two of obstinate vomiting, one of obstruction of the bowels, and several of diarrhœa. The change of weather to rain and cold winds was productive of some catarrh and one severe case of pneumonia, which gave rise to some apprehension.

The authorities at Brussels were equally kind as at Ghent, and allotted us a room at the Hôtel de Ville.

I wish, in conclusion, to bear testimony to the unremitting attention and *esprit de corps* of my colleagues, Drs. Helsham, Sandwell, Ryan, Ambler, and Ridsdale, whose addresses were posted in several places, and upon whom an unexpected pressure was made, and to thank them for the promptitude and assiduity with which they assisted in the efficient discharge of the duties of the medical staff, for the necessity of which appointment the number of cases proved the forethought of the Council.

P. HINCKES BIRD, F.R.C.S., 36th Middlesex R.V.,
Chief Medical Officer, Anglo-Belgian Staff.

September 30th, 1872.

Correspondence.

"Audi alteram partem."

HEALTH IN INDIA.

To the Editor of THE LANCET.

SIR,—It is true that year after year India sends out the sad story of premature disease and death, simultaneously with medical returns, reports, and blue-books from the several Presidencies. In the returns, fever is the prevailing disease. Cholera is, as so often stated, ever present; a few years it may be mild, and then a year of terrible mortality. You say, Mr. Editor, that "hypothesis succeeds hypothesis," borne upon the surface of a sea of statistics and impracticable suggestions; I will add, and woven out of much useless investigation. It will not be a wonderfully

profound remark to say that India is a vast region of Asia consisting of rivers, swamps, jungles, arid plains, hills and mountains; that the inhabitants are of various races—Hindoos and Mohammedans—living in long-established superstitions; poverty being the rule, filth the prevailing domestic condition, sloth and disease being the wide-spread results. It has been my fate, Mr. Editor, to read reports and statistics until my eyes have ached, and to study maps until bewildered. I know most of the report-theories as to the origin of cholera, where it rises, which way it travels, and what strange exceptions it makes. The monsoon rains are reported to wash it out now and then, but we are told that it incubates again in swamps, and even festers in bazaars, that it travels with pilgrims, that it goes with the wind, that it goes against the wind, that it marches along the course of rivers, and that sometimes it even climbs mountains. Having learned all these vagaries of cholera, obtained for me and for anybody else who will read Indian cholera literature (I should like to say cholera litter as regards some of it), I want to know the way to some practical remedy. A study of geography, geology, and of meteorology drives me to despair; as, if the remedy is to consist of my, or of anybody else's, materially altering the natural conditions of India, things must remain as they are. I cannot drain the swamps nor cultivate the jungles, diminish the sun's temperature nor reduce the violence of the monsoon winds and rains. I am not Hercules; and I think even the labours of this ancient sanitary commissioner fell far short of such works as are here indicated to be necessary for the sanitary improvement of India. A study of the history of epidemics teaches me that usually there are exceptional seasons—wet or dry—affecting, first, vegetation, then animals are smitten, and, ultimately, man. Now, I cannot prevent a recurrence of such disasters; I must therefore despair. I hope not, however. Let us then see what can, may, and ought to be done. First, let us duly label, index, and shelve our cholera returns, reports, and blue-books, and strive to begin at the beginning. We cannot mend nature on a grand scale; and as man, for healthy life, can only inhabit a small space of the earth's surface at any one time, let us see if he can be surrounded by the means of comfort and health. Let us commence our problem with units, by taking an individual man. As, if we can place one man under conditions of health, why not ten men?—why not hundreds, thousands, millions?

The despised blue-books detail many facts necessary to know. The centres of town populations are for the most part seated on rivers. Many of these rivers and the country around are in flood during the rains, and are shrunk to small volumes during the hot weather. The flooded and swollen lands of the wet season bake and crack during the hot season, so that water becomes scarce. Caste involves cleanliness, but the vast masses of the population of India, whatever they may do with caste, pay no attention to cleanliness. The scant supplies of water of the hot periods are fouled by every possible process of fouling. Rivers, tanks, and wells are polluted by corrupting human carcasses, and still these waters are used for ablution, cooking, and drinking. Wells are sunk within the area of village mud-hovels, and by hundreds in city suburbs, which have for ages been sodden with human filth and other corrupting influences. These are the water sources and the modes of water supply in India. The water is polluted, and as surface scavenging is neglected, the air is polluted within and around every human dwelling. European barracks and even hill stations are allowed to become and to remain filthy. Bungaloes and huts are half buried in the hill sides so as to block ventilation. There is no adequate drainage, and no proper supply of water. Surface drainage and surface filth are allowed to accumulate in the nearest valley, up which the winds sweep the stench and malaria. Fever (even yellow fever in the West Indies) and cholera break out at so-called sanitaria, four thousand feet elevation giving no protection.

India being as it is, what must be the duty and the work of the sanitarian, medical and engineer? Dr. Hewlett at Bombay, Mr. Clark at Calcutta, and Major Tulloch at Madras, have shown the way. The Bombay sanitary police cleanse and scavenge unceasingly. Calcutta has obtained a more abundant and more purified water supply, with city sewerage and street and house drainage. In Madras sewage irrigation has been proved to be practicable, because it has been pecuniarily successful. With respect to British army cantonments, barracks, hospitals, and hill stations, sewerage, drainage, pure water and water works, ventilation, and surface scavenging will work wonders. India may remain, as now, a vast area of alternate swamp or dust. These may deteriorate health and diminish comfort, but need not be allowed to kill. Human disease in excess, as a rule, ripens out of local misuse, personal neglect, and local malaria. This is no new discovery. Boccaccio and his merry party adjourned from the Italian plague-stricken cities and found health, comfort, and pleasure in a purer country atmosphere. The remedy for disease in India must be personal. Cure must commence with the individual, and must be extended to communities. Regular scavenging, at short intervals, must be at all times available, and if pure water for drinking cannot be supplied, that station should, at once and for ever, be abandoned. Grand works of sewerage, huge barracks and hospitals, and gigantic waterworks are not in all cases necessary to health and comfort. The simple injunction, "Wash and be clean" only requires attending to.

I am, Sir, yours obediently,

CIVIL ENGINEER.

ELEVATION OF DEPRESSED CRANIAL BONE BY PNEUMATIC TRACTION.

To the Editor of THE LANCET.

SIR,—The last number of THE LANCET contains a short paper by Mr. H. W. Larkin on "Elevation of Depressed Cranial Bone by Pneumatic Traction," in which he relates his success in using an exhausted cupping-glass to raise the bone in the case of a child, a few days old, whose temple had been injured during birth. No symptoms of brain lesion appear to have been present. Mr. Larkin proposes to use this mode of elevation in most cases of depressed fracture of the skull, whether occurring in children or adults.

Pneumatic traction has already been successfully employed to restore the osseous outline in a number of cases similar to the one cited, and also in cases of severer cranial injury, or where the age of the patient was greater. In all cases of depression without fracture occurring in children, it would seem advisable to use pneumatic traction to aid the natural resiliency of the cranial bones and the pulsatile movements of the brain in obviating the accidental deformity, which, if unrelieved, may become a factor in the production of cerebral disease, idiocy, or future insanity.

Gross mentions this treatment of such cases (Syst. Surgery, 3rd ed., vol. ii., p. 145):—"If the child is very young, an attempt may be made to raise the bone by suction with a cupping-glass, as recommended by Hildanus, and practised successfully in 1849 by Dr. W. L. Moultrie, of Charleston. The depression in this case occupied the parietal bone, and was large enough to contain with ease the bowl of a common tablespoon. The instrument having been properly adjusted and exhausted of air, traction was made upon it with the effect of rapid and complete restoration of the entire surface to its natural level. The child, which was five months old, recovered without any untoward symptom. A case of a similar nature has been reported by Dr. Nicholls in the *Dublin Medical Press* for September, 1853. The depression, which was deep, narrow, and about three inches in length, was promptly raised by a cupping-glass placed upon an embankment of common glaziers' putty, in order to afford the instrument a proper purchase. The child was two years old."

I am, Sir, yours obediently,

W. JULIUS MICKLE, M.D., M.R.C.S., &c.

Grove Hall Asylum, Bow, E.

DENGUE FEVER.

To the Editor of THE LANCET.

SIR,—I send you an extract from a letter recently received from a gentleman in Calcutta, who has had an attack of dengue fever. Although the case is somewhat incomplete, you may possibly consider the remarks worthy of insertion in your valuable journal. He writes thus:—

"Dengue fever commenced in Calcutta in November last

year, and has hardly yet ceased; 80 per cent. of the inhabitants of this city, Europeans as well as natives, having been attacked. The mortality, however, has been very small, not greater than it is in measles at home. It is really a West Indian disease, called out there, I believe, the 'Dandy,' or 'Break-bone' fever. It has never been known in such a severe epidemic form in India before last year. There were a few cases about twenty years ago; none since the present epidemic. It is a sort of mixture of scarlet fever and rheumatism—i.e., intense pains in the joints, with a red rash, passing off in a few days, the whole attack not lasting longer than a week, but pains of a rheumatic character remaining for a long time after. With me the attack commenced with a kind of nervous exhaustion and depression, which passed off after a short trip to sea, with bathing in salt water. Shortly after my return to Calcutta, in April, as the heat increased the old symptoms returned, attended with a breaking out of a perfect mass of huge boils like carbuncles, confining me to bed and to the house for three weeks, unable to move without agony, losing sleep, appetite, and flesh, becoming quite nervous and broken down. I was recommended to pay a visit to the Himalayas, and returned after a month's absence convalescent. As soon as I reached the colder climate my symptoms rapidly disappeared. I am now quite well, and able to attend to my duties."

No further particulars are mentioned.

I am, Sir, your obedient servant,

F. ADAMS DAVSON, M.D.

Roseville, Dartmouth, 8th Oct. 1872.

TYPHOID FEVER IN INDIA.

To the Editor of THE LANCET.

SIR,—I have read Dr. De Renzy's letter in THE LANCET of the 5th inst. The issue between us, reduced to its ultimate terms, is this: Shall medical science, in questions of grave diagnosis, require the published well-digested clinical reports of actual observers, or be satisfied with the inferences drawn by eminent statisticians from hospital cases and hospital returns? I hold to the first. Dr. De Renzy, if I understand him aright, is content with the second. Thus, so far as I am concerned, the matter must rest.

In respect to what I have at different times written on fevers in India, I can only hope that all who care to know my opinions will go to the original sources, and not accept them at second-hand, garbled and misinterpreted.

I am, Sir, your obedient servant,

Edinburgh, October 9th, 1872. C. MOREHEAD, M.D.

INFECTION AT SCARBOROUGH.

To the Editor of THE LANCET.

SIR,—During a recent visit to Scarborough, I entered into conversation with a person who kept a lodging-house, as to the sanitary condition of the town in general, and lodgings in particular. He informed me (unwillingly) that a few months since, when small-pox was raging in the town and neighbourhood, his daughter was taken ill of that complaint, and that, though knowing this, he kept her in the house in a room to herself, but let his lodgings to a party of six persons who had come to Scarborough for their *health*. He kept the first of his daughter's illness a secret, and (though he confessed that he was breaking the law) he took visitors into his house in which, at the time, there was an infectious disease. He also informed me that plenty of lodging-house keepers did the same thing. If the above be true (which I have no reason to doubt), no wonder visitors return from this favourite health-resort with the germs of deadly disease sown in their systems. It also speaks very badly for the administration of sanitary regulations. I need add no more; the fact speaks for itself. If, however, my communication leads to stricter and better inspection of all lodging-houses, both in Scarborough and elsewhere, I shall be satisfied.

I am, Sir, yours faithfully,

October 1st, 1872. MEDICUS.

GRAPHIC PORTRAITURE.

To the Editor of THE LANCET.

SIR,—Having declined to forward my portrait and biography to the editor of the *Graphic*, I was prepared to be "sent to Coventry" by that gentleman, but certainly did not anticipate having to "tarry at Jericho until my beard was grown." This appears to be necessary, however, as the editor has put a razor to my chin for the first time during the last two years.

Yours obediently,

Cavendish-place, Oct. 8th, 1872. CHRISTOPHER HEATH.

AN APPEAL.

To the Editor of THE LANCET.

SIR,—Knowing how ready you are to open your columns to the cry of distress, I venture to ask your aid in favour of the two daughters of the late Dr. John Hawkins, of Woodstock. He died in November, 1871, at the age of eighty-seven, having been elected a pensioner at the Medical College, Epsom, in May, 1870. He had outlived his practice, his friends, and his savings. His two daughters are now kept from absolute starvation by the charity of a few residents of Woodstock. The ladies are in feeble health, and far too advanced in years to maintain themselves by their own exertions.

Subscriptions for their benefit will be thankfully received by Colonel Thomas, Woodstock House, Woodstock, or by

Your obedient servant,

J. LUMSDEN PROPERT.

100, Gloucester-place, Portman-square, W.

ABERDEEN.

(*From our own Correspondent.*)

WE are now furnished with "our little bill" for the expenses of the Small-pox Hospital. It amounts to a good deal over £3000, and considering that only 230 patients were treated in it, and that it was in use for a period of only about seven months, it must be admitted that the cost is very heavy. No doubt a portion of this is for the purchase of the building; but as the house, being unsuited for a permanent hospital both from its nature and situation, will in all probability be sold again, we are deprived of the hope that a portion of the outlay might be carried to the credit of the next epidemic. Allowing for the sum that may be obtained by the sale of the present building, the cost of the 230 cases treated would be about £10 each; and considering that each patient was, on an average, three weeks in the house, the weekly cost of each amounted to over £3, or at the rate of rather more than £170 per patient per annum—a figure which, compared with ordinary hospital expenditure, is certainly excessively high. Whether any portion of this extravagant cost might have been saved by more economical arrangements, it is useless to inquire; it is plain that the hand-to-mouth plan of hastily providing for an epidemic after it has begun is by far the most costly that can be tried, and it is to be hoped that the lesson thus taught will not be hastily forgotten. Some years ago one of the parochial boards here came into possession (by the compromise of a lawsuit) of a sum of about £7000 or £8000, and it was proposed to devote about the half of it to the erection of an epidemic hospital. Reasonably enough, the other parochial board, which comprises the western half of the town, was asked to assist in the plan by contributing a trifling sum, which would not have amounted at the utmost to half-a-crown from each ratepayer, and that spread over four or five years; but, with the penny-wise-pound-foolish wisdom so often exhibited by such boards, all co-operation was refused, and the scheme fell to the ground. To listen to the reasons then given for that refusal, one would almost have thought that the sapient members of the board believed that an epidemic was bound to respect the boundaries of their parish, or that, like a pauper, it could be got rid of by some ingenious law of settlement. It is not too much

to say that the few hundreds then refused will, in the end, cost that parish thousands; certainly, had an epidemic hospital been then provided, one-half of the cost recently incurred would have been avoided, and we would have also been in a position to meet satisfactorily the next epidemic; whereas now the money has been spent, and we are not one step farther advanced than we were, for the whole cost will have to be incurred again, sooner or later. But will the lesson be learned even now? Really, after all, it seems doubtful. The Health Committee of the Town Council have no doubt been speaking of the necessity of erecting an epidemic hospital, but they seem to be doing so in such a half-hearted sort of way as almost to imply that they would fain the question would go to sleep; while some of the ratepayers have begun to grumble at the expense, and to question its utility. If such is the case now, when the lesson is fresh in our recollection, what will it be if time is allowed to slip by without anything being done, till the public mind slips again into its old apathetic condition, and epidemics seem to be but faint visions of the past? Our civic rulers will be much to blame if they allow us to fall into another epidemic unprepared, or fail to realise the fact that now is the time to make satisfactory preparation for what is sure sooner or later to arrive.

In connexion with our sanitary arrangements we are promised an improvement in the work done by the officer of health. Hitherto this appointment has been tacked on as a sort of appendage to the duties of the police surgeon, and a small addition to the salary given. Consequently, as might have been expected, scarcely any practical good has been obtained by the appointment—almost the only result being the occasional publication of a table showing the number of cases of zymotic disease treated in the public institutions. It is now proposed that a salary of £105 be given, but the appointment is still to be a secondary one, attached as before to the office of police surgeon. With this, however, we will not grumble, provided that something in the way of real sanitary work is accomplished. Let us have, at least, full periodical reports of the health of the town, with regular investigations into the local causes of the rise and spread of disease with a view to their removal; and if, in addition to these, the subject of the adulteration of food be taken up, the officer of health will find abundant scope for active exertion, and be capable of rendering extensive and valuable service—service which, if well performed, the public will not be slow to acknowledge and appreciate.

Aberdeen, Sept. 2nd, 1872.

NEWCASTLE-ON-TYNE.

(*From our own Correspondent.*)

THE Winter Session of the University of Durham College of Medicine was opened here on the 1st. There was a numerous attendance; Dr. Arnison delivered the introductory address. The report of the College was read, in which allusion was made to the resignation of the esteemed president, the Rev. Canon Whitley, and regret expressed at the severance of the connexion between the College and one of its oldest members, Dr. Embleton, whose portrait it had been resolved to place in the library of the College. Dr. Wm. Murray had also resigned the chair of physiology, which is to be occupied by Dr. G. H. Hume. Mr. H. E. Armstrong has been elected lecturer on botany, and Dr. James Reoch, of Edinburgh, has been appointed to give a complete course of practical physiology, for which the necessary apparatus would be provided by the Council. The number of students attending lectures during the last winter was seventy, and in summer forty-four. Dr. Charlton had been elected president of the Council. After the distribution of prizes, a rather animated, yet withal good-humoured, discussion took place between the Mayor (T. L. Greyson, Esq.)—a worthy member of our profession, who sustains the civic and professional dignity with grace—and the Rev. J. Waite, the former remarking that he would like to see "out of the plethora of riches possessed by the University of Durham a little hæmorrhage for the benefit of the medical institutions of the town"; the latter retorting "that they must not forget that there were other medical schools besides Newcastle—those of Birmingham, Manchester, and Leeds, and, so far as he knew, they were supported by funds raised in these great cities and in their neighbourhood. If the Mayor of Newcastle would turn this matter over in his vigorous and fructifying mind, with the view of taking some practical steps upon the subject, he could not help thinking that he would have very vigorous co-operation, and that the results might be of a very satisfactory kind."

In the evening the Council of the College and friends dined together at the Turk's Head Hotel. Dr. Charlton occupied the chair, and Dr. Arnison was vice-chairman. The usual toasts were given, and duly responded to. Dr. Charlton alluded to the progress of the College since his connexion with it in 1839. In proposing "The University of Durham," the Sheriff of Newcastle said that "ere long there would be a surplus revenue accruing from their charities, and that a large portion of that would be divided among the medical charities of the town.

The annual report of the Convalescent Society here and of the Home at Whitley has been issued, from which it appears that the number of cases treated has been 628; of the whole number 545 were either completely relieved or greatly benefited. During the past half year five cases of small-pox have occurred in patients who, at the date of their admission, were recovering from other diseases; and the report of the medical officers notes that, "considering the fact that there has been a very severe epidemic of small-pox in the whole district during the year, it is highly satisfactory that these were the only cases which have been introduced into the institution, and that it is a matter of congratulation that when once introduced the means taken to limit the spread of the disease were so effectual." The Committee of this valuable institution are compelled to hint to their subscribers the necessity of exercising discretion and caution in the distribution of tickets, for they have good reason to fear that a system of canvassing for letters of admission is springing up, and that certain bold and adventurous spirits would fain make the Home, if they could, a home in a sense other than that which was intended by its founders.

Newcastle-on-Tyne, Oct. 5th, 1872.

PARIS.

(*From our own Correspondent.*)

As your special correspondents have sent you full details concerning the two great medical events which have occupied the attention of the profession here during the last fortnight, I shall content myself with giving you the special news of Paris, which is not without interest, notwithstanding the dull season.

M. Lunier, one of the inspectors of the lunatic asylums, has been engaged in conducting an investigation throughout the various asylums of France, with the object of finding out what could have been the influence of the recent terrible events which have occurred in this country—I mean the war and the Commune—on the movement of mental diseases in France. The result of the inquiry shows that they have had two seemingly very conflicting consequences. They have determined the explosion of from 1700 to 1800 cases, and yet they have had the effect of diminishing the total number of cases during 1870-1871 by 3000. These conclusions are based upon the following series of figures:—Total number of admissions into the asylums from July 1st, 1869, to July 1st, 1870, 11,655; total number during the corresponding time of 1870-1871 (within which the war and Commune occurred) was only 10,243; making a difference of 1412. Furthermore, Dr. Lunier reasons thus: "On January 1st, 1871, the French asylums contained 38,100 inmates, 64 less than in January 1870. On Jan. 1st, 1872, the number of cases was 713 less than in 1870; but if we calculate what would have been the population of the asylums on Jan. 1st, 1872, had the progressive increase of the number of lunatics been the same as in the preceding years, we find that the diminution attributable to the events is 3628.

Dr. Lunier states, on the other hand, that out of the total number of 10,243 admitted from July, 1870, to

July, 1871, 1322 (13 per cent.) cases were obviously due to the events of 1870-1871, the proportion being 15·60 per cent. of males, and 9·40 of females. From July to Dec. 1871, the asylums received about 400 new cases from the same cause.

To explain the discrepancy which apparently exists between the fact of 1800 cases brought on by the sieges, and yet a diminution of 3000 on the total number of cases, Dr. Lunier invokes the following factors: 1. Perturbation caused by the invasion in the service of the asylums. 2. Greater stringency as regards the admission of patients. 3. Diversion produced by the events in the mental condition of a certain number of individuals predisposed to madness. 4. In certain parts of the territory temporary diminution of alcoholic abuse in the civil population. 5. Rapid termination in death, and much oftener in cure, of the cases of madness developed by the events.

In my last letter I referred to a very startling communication made by Dr. Davaine to the Academy, in which he mentioned that a trillionth dilution of septicæmia in rabbits and guinea-pigs was sufficient to cause death when inoculated on one of the same species. I mentioned that these results, coming from a man of recognised standing like Dr. Davaine, had almost stupefied the whole assembly. Last Tuesday Dr. Bouley, at the same Academy, made a long speech, in which, by a series of facts and inferences, he destroyed Dr. Davaine's conclusions, as far, at least, as they apply to the cow and horse. Dr. Davaine responded that he meant them to apply exclusively to the kind of animals he had experimented upon. Whereupon the president appeared quite glad to be able to put in some comforting words, and to say that if the terrifying effects of Dr. Davaine's experiments were to be confined to guinea-pigs and rabbits, and not to extend to larger animals, there was no cause for anxiety.

M. Thiers is now quite well.

Great agitation has been caused recently in the General Council of the Seine by the wish of the radical portion of the councillors to appoint Dr. Beclard, one of the members and professor of physiology at the Faculty, president. He, however, declined the honour, and at the election, which took place a few days ago, was not nominated, though about thirty of the members were anxious to vote for him.

Dr. Vulpian, professor of pathological anatomy at the Faculty, has been authorised by his colleagues and the Minister of Public Instruction to take the chair of comparative and experimental physiology, vacant by the resignation of Dr. Brown-Séquard. The chair of pathological anatomy is, therefore, now vacant, and will very likely be given to Dr. Charcot, the distinguished physician of La Salpétrière, some of whose lectures you have recently published.

The health of Paris was remarkably good last week. The total number of deaths during the week was only 794, whereas it had been 875 the preceding one. There are no signs of any kind of epidemic existing or impending.

It is with great regret that I record the death of two very distinguished *confrères* of this city—Dr. Horteloup, formerly surgeon to the Hôtel Dieu, and Dr. S. Duplay. In my next letter I shall send you some details touching both of them.

Paris, October 1st, 1872.

BORDEAUX.

(From an occasional Correspondent.)

IN this letter I shall very briefly sketch the proceedings of the Association during the last three days of the meeting, so as to bring my account of the session to a close.

September the 10th was an excursion day, and was devoted to a most interesting journey by river and sea to the furthermost end of the Department of Gironde, where it stretches into the sea. The sight was a very grand one. The huge dykes which are being built up so as to prevent the gradual and rather alarmingly rapid encroachings of the ocean on the coasts of Gironde were examined with much curiosity.

Wednesday, 11th.—Sections opened, as usual, at 10 A.M. In the Medical one some papers of interest were read and briefly discussed.

Dr. Rubio, of Madrid, read a paper "On a New Mode of Termination of Nervous Fibres."

Dr. Armingaud spoke of Trousseau's *point apophysaire* and spinal irritation. He insisted on the importance of finding out the point apophysaire in neuralgia, as it may then be efficaciously treated by local means—blistering, actual cautery, &c.

Dr. Peyraud read a paper "On the Antagonism of Bromide of Potassium and of Substances which excite Epileptiform Convulsions." The substances investigated in the memoir were essence of wormwood and Japan camphor. The effects of these substances were successfully neutralised by bromide of potassium. Furthermore, as it was found that the camphor and wormwood diminished the production of sugar and glycogenic matter, Dr. Peyraud was led to employ camphor in a case of diabetes, and diminution of sugar rapidly took place.

Dr. Rollet recommended the use of valerian powder and purified turpentine in the treatment of epilepsy (ten parts of valerian to ten of turpentine).

Dr. Boulland (of Limoges) spoke of "the endosmotic properties of animal membranes," especially the fibrous coating of the frog's stomach. Dr. Lefort (of Paris) spoke of "acute glaucoma," which he believes is due to dropsy of the serous membrane which separates the choroid from the sclerotic. Dr. Lefort therefore performs sclerotic paracentesis of the eye. He related the details of two successful cases.

Dr. Auguste Voisin, of Bicêtre Hospital (Paris), read a paper entitled "Researches on the Morbid Histology of Mental Diseases." Several drawings were handed round, showing all sorts of brain lesions. Dr. Voisin has come to the conclusion that all cases of madness, even those proceeding from moral causes, are accompanied by lesions of the nervous centres.

The Anthropological section was well attended the same day, and various subjects of interest were discussed or brought on the *tapis* by MM. Quatrefages, Broca, Chasteigner, Trutat, Berchon, &c.

In the Zoological section, M. Périer disclosed the wonders of the bottom of the sea. Dr. Plumeau described the "Phylloxera vastatrix," which is now doing such damage to the vineyards of the South of France. M. Quatrefages described some of the sea animals of Arcachon. Dr. Métadier showed a "wood-fish," and spoke of the "genital organs of the coa."

At the general sitting, which took place at two o'clock the same day, M. Frossard (Protestant minister at Bagnerres de Bigorres) spoke of the "Société Ramond," founded in August, 1865, and presented the Association with a copy of its transactions. This society was at first a kind of Alpine club; no one could be admitted a member unless he had climbed the Pyrenees 7000 metres above the level of the sea. It was, therefore, the Pyrenean club. Since then it had widened its doors, and its transactions contain communications on anthropology, botany, geology, meteorology, &c. &c.

SWITZERLAND:

A GLIMPSE AT ITS UNIVERSITIES, HOSPITALS, AND BATHS.

(From our Special Correspondent.)

NUMEROUS as are the visitors annually to the great playground of Europe, few trouble themselves with the charitable and educational institutions of the country. They are in search of health and amusement, and are content to explore the lovely lakes or the stupendous mountains for which Switzerland is so celebrated; and they scarcely bestow a thought on the great social peculiarities of the people, or devote more than a passing glance to the various charitable institutions which this comparatively poor country supports, but which, in number, variety, and excellence, often vie with those to be found in the principal cities of England.

Switzerland has three universities—Berne, Basle, and Zurich,—which give medical diplomas and have medical schools attached to them. Each and all are well worthy of a visit, for each is a busy intellectual hive, in which much honest work is done, and from which yearly are sent many

highly educated and intelligent medical practitioners. The alumni of the Swiss universities, however, are rarely content with the opportunities, great as they are, which they enjoy in their own country, and generally spend one or two years in visiting the medical schools either of Germany or France. In this they set our own students a worthy example, for a medical education to be complete ought to be cosmopolitan, and should bear no distinction of country, nor follow implicitly the dogmas of any special school whatever. It is noteworthy that all the universities are situate in cantons where Protestantism prevails, and among populations where there is the greatest intellectual and commercial activity.

Berne, the birthplace of Haller, and the seat of the Federal Government and Diet, first claims our attention. It is the youngest of the three universities, having only been founded in 1834, but it seems, by its rapid progress and by the eminence of its professors, to be not unlikely to outstrip its older competitors.

Space cannot be spared for a complete account of the university, or even for a bare enumeration of its medical professors; but what will especially interest medical readers is that in this town of 40,000 inhabitants there are two large general hospitals, one of them having 120 beds specially allocated to clinical purposes, and also separate hospitals for diseases of the eye (with 30 beds), for diseases of the skin and syphilis, for diseases of children, for mental disorders, for infectious diseases, and, lastly, a large and well-regulated maternity charity.

The university is in the centre of the town, but the anatomical school, and the various chemical and physiological laboratories, as well as the pathological museum, are at a short distance, and in the immediate vicinity of the large clinical hospital.

The Einselspital or Hôpital de l'Ile contains 300 beds, which are allocated to three physicians and two surgeons. It is probably one hundred years old, has small wards, and rather dark stone corridors and staircases, but it is well situated, the majority of the wards looking south, and commanding a magnificent view of the Bernese Oberland. Each ward has from 8 to 12 beds, besides the nurse's bed, which is either placed in a corner of the ward, and only separated from it by a low wooden partition, or in a very small adjacent chamber. The bedsteads are made of wood, and each is provided with two mattresses, one of straw and the other of wool. The floors are polished and dry-rubbed; there are no day-rooms, but the patients are allowed to perambulate the stone corridors. Pyæmia is not unfrequent, but a sensible diminution has taken place since Lister's plan of dressing wounds has been adopted. Although this dressing is generally liked, it does not always succeed, and one case of amputation of the thigh was pointed out in which the application of catgut ligatures had been followed by secondary hæmorrhage.

Pirogoff's operation is preferred to Syme's, and we saw a case in which a woman, aged fifty, had had that operation performed on both feet for frost-bite with perfect success, an excellent stump being afforded to each lower extremity. Operations for stone are rare, for hernia very frequent. Division of the stricture without opening the sac is preferred. Excisions of joints, especially of the knee, are rarely performed. The temperature of all the patients is taken, and the register kept in chalk on a black-board, which hangs at the head of each patient's bed.

The plan of extension by weights is adopted in cases of hip-joint disease, but not for fractures, lateral splints being used for those of the legs, followed by dextrine or gum-and-chalk bandages at the end of a week; for fractures of the thigh an apparatus invented by Professor Lucke, now of Strasburg, is employed. It is rather cumbrous, and only suited to hospital practice. Extension is kept up by means of a wheel-rack and pinion turned by a screw opposite the outer ankle. Good results are said to be obtained from its use.

The operating theatre is small, but well lighted. Near it is a room for instruments and for the storing of recent pathological specimens. The majority of the latter are, however, to be found in the pathological museum opposite to the hospital.

Typhus is never seen at Berne, but typhoid is frequent. The treatment employed is the cold bath every two hours while the temperature is over 39·6° Cent.; and when 39° is reached, or if hæmorrhage comes on, the baths are stopped. No internal treatment is used except in case of hæmorrhage, and then astringents and opium are given, and an ice-bag is applied to the region of the stomach.

This hospital is entirely supported by endowments and voluntary contributions, and, though rich, is not so well supported as the "Burgerspital," or municipal hospital. This is a handsome building close to the railway-station, containing about 110 beds, fifty of which were occupied at the time of my visit. Many of the patients pay for their rooms and attendance, and are accommodated with a private bedroom; but all the citizens of Berne may claim gratuitous admission as a right, and all poor strangers are received, fed, and lodged for a night, whatever their nationality. The buildings occupy the sides of two squares; the ground and second-floor rooms are devoted to men, and the first floor to women. The aspect of the whole place is bright and cheerful; well-kept gardens, with fountains in their centre, fill the quadrangles, and here, as well as in the broad stone corridors adjacent to the wards, the patients may walk about.

The wards vary in size, the smaller containing four, and the larger seven beds. They all appear like private rooms, and are provided with sofas, tables, books, flower vases, and every requisite for comfort. Each bed has curtains, a spring mattress, and an eider-down quilt. There are also separate day rooms, in which the patients may pass their time. In a detached building at the rear are bath-rooms, store-rooms, and also a workshop in which the men may work as carpenters, joiners, &c., or, if they know no trade, are expected to cut up firewood for the rest of the inmates, which is stored carefully, as this is the only obtainable fuel.

The other charitable institutions seem to be conducted on an equally liberal scale.

Obituary.

DR. JOHN NIELL.

THIS able and industrious practitioner died at Croydon on the 30th ult., in his sixty-sixth year.

Dr. Niell was the son of Mr. James Niell, of Ayr, N.B., and was educated at the well-known academy of that town. Having served as a pupil under the late Dr. Donaldson, he went in due time to the University of Glasgow, where, after a distinguished curriculum, he graduated in medicine in 1835. In 1836 he became a member of the Royal College of Surgeons of England, and in the same year joined his uncle, an old naval surgeon, in Falcon-square. He removed in 1840 to Aldersgate-street, where he laboured with success. As a philanthropist he was widely appreciated, and took a special interest in the charities of the Scottish corporation. Of late years he was constrained to become particularly careful in his regimen, unaware of the insidious cause. As soon as practicable after his death an autopsy disclosed cancer of the pylorus, contracting it to the calibre of a crowquill.

In January, 1869, he married Martha, youngest daughter of the late John Spicer, Esq., of Tulse-hill. His widow and his many friends, both in and out of the profession, will never cease to cherish the memory of his kindly nature, his benevolent disposition, and his upright character.

DR. JAMES FERGUSON.

ELGIN has lost an able and active practitioner in Dr. Ferguson, who died on the 23rd ult. at Falmouth. The deceased gentleman was the son of the late Mr. Jas. Ferguson, a farmer in Elginshire, and was born in 1835. An excellent classical education at the academy of the county town prepared him for his medical studies at Edinburgh, where, after completing with distinction the four years' curriculum, he graduated in 1856. Returning to Elgin, he became connected with Gray's Hospital there, and served two years under his uncle, the late Dr. Paul, a highly efficient officer of that institution. Early in 1859 Dr. Ferguson entered the navy, and acted for two years as assistant-surgeon on board H.M. ship *Galatea*, well known as the vessel in which the Duke of Edinburgh circumnavigated

the globe. On the death of Dr. Paul in 1861, Dr. Ferguson returned to Elgin, and succeeded to his uncle's practice. He rapidly drew around him a large and influential *clientèle*, while indefatigable in his attention to the poor. He was full of scientific enthusiasm not only in his professional studies, but in all departments of inductive research. He was also an accomplished musician, and possessed more than an amateur's skill on the violin, performing frequently for charitable objects at choral unions and other meetings. Of late years, however, his health began to give way, and in November last he became seriously ill. His constitution carried him over the attack till the summer, when he resumed practice. But he relapsed, and by the advice of friends he accepted the offer of a surgeoncy on board a sailing-vessel bound for Australia, in the hope that the voyage would restore him to health. He accordingly left England with his wife on shipboard, but grew so ill after a few days at sea that the vessel had to stop and land him at Falmouth, where he died in his thirty-eighth year.

His death has caused much grief in Elgin, where his professional labours among rich and poor, his varied accomplishments, his benevolence, and his winning manners, had endeared him to all.

Medical News.

THE importation of cattle into Denmark from Great Britain is prohibited in consequence of the existence amongst us of the cattle plague.

MEDICAL SCHOLARSHIPS.—Mr. Reginald Paul has obtained the entrance scholarship of £25, and Mr. Walter Scott Thompson the entrance scholarship of £20 at the Middlesex Hospital Medical College. Mr. Alfred Tilley has obtained the scholarship of £40 per annum for three years, and Mr. W. H. Weddell the exhibition of £20 for one year, at the St. Mary's Hospital Medical School.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—This Society held its annual meeting on Tuesday, October 1st, 1872. The secretary's report showed that its last session had displayed more than the usual activity, both in the number of papers contributed and the exhibition of morbid specimens. Its pathological section had increased in value, and a great advance had been made in the opening of a dissecting-room for the use of its members. The Society had now been in existence ten years, and its present register of effective members numbered 42.

AT a meeting of the Faculty of Physicians and Surgeons of Glasgow, held on the 7th inst., the following office-bearers were elected for the ensuing year, viz.:—President: Eben. Watson, M.D. Visitor: George Buchanan, M.D. Treasurer: John Coates, M.D. Honorary Librarian: J. D. Maclaren, M.D. Vaccinator: Hugh Thompson, M.D. Councillors: The President (ex officio), The Visitor (ex officio), Drs. J. G. Fleming, Robert Scott Orr, H. R. Howatt, James Steven, Andrew Fergus. Board of Examiners: Drs. Robert Scott Orr, W. Leishman, William Lyon, Eben. Watson, James Morton, Robert Perry, P. A. Simpson, Alexander Lindsay, and George Buchanan.

REGULATIONS FOR LEAVE OF ABSENCE FOR MEDICAL OFFICERS.—The following amendment of Paragraph 682 of the Queen's Regulations in regard to leave of absence for medical officers has been made:—All applications for leave of absence for medical officers serving at home will be made on W. O. Form 1119, through the Director-General, Army Medical Department, to the Adjutant-General. Medical officers not attached to regiments will first obtain the permission of the General Officer commanding before applying through the principal medical officer of the district. Medical officers attached to regiments will first obtain the permission of the principal medical officer before applying through their commanding officers to the district authorities. The grant of leave will in all cases be notified to the district authorities by the Adjutant-General. Officers commanding, in recommending medical officers for leave of absence on private affairs, will be careful to ascertain that the distribution and state of health of their corps, as well as the arrangements for the carrying on of all regimental medical duties, are such as to justify their recommendation.

Medical Appointments.

BRADY, J. W., M.B., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Clara Dispensary District of the Tullamore Union, King's County, vice W. Ash, deceased.

BROWNE, Dr. V. E., has been appointed Assistant-Physician to the Mater Misericordiæ Hospital, Dublin, vice Nixon, appointed a Physician.

BUTLER, F. W., L.S.A.L., has been appointed Resident Obstetric Assistant to the Westminster Hospital, vice Fosbroke, appointed House-Physician.

CARTER, S. H., M.B., L.R.C.S.Ed., has been appointed Assistant Medical Officer to the Workhouse Infirmary, Toxteth-park, Liverpool, vice R. A. Keys, L.R.C.P.Ed., M.R.C.S.Ed., resigned.

COCKCROFT, J., M.D., M.R.C.S.E., has been appointed Medical Officer for the West Leyburn District of the Leyburn Union, vice G. Wright, M.R.C.S.E., resigned.

DE LANDRE, V. R., L.R.C.P.Ed., L.M., L.R.C.S.I., has been appointed Medical Officer for the Waterford District of the Waterford and Limerick Railway Friendly Society, vice J. Mackesy, M.D., deceased.

FOSBROKE, G. H., M.R.C.S.E., has been appointed House-Physician to the Westminster Hospital, vice Butler, appointed Resident Obstetric Assistant.

JORDISON, C., M.R.C.S.E., L.R.C.P.Ed., has been appointed Surgeon to the Whitchurch and Tattenhall Branch of the London and North-Western Railway.

LAING, J., L.K.Q.C.P.I., has been appointed Assistant Resident House-Surgeon to the East Dispensary, Liverpool, vice T. Price, L.K.Q.C.P.I., M.R.C.S.E., resigned.

LITCHFIELD, H. R. C., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer to the Carpenters' Company's Asylum, Twickenham, vice Thos. Litchfield, M.R.C.S.E., deceased.

LITTLE, W., L.R.C.P.Ed., L.M., M.R.C.S.E., has been appointed an Hon. Medical Officer to the North Dispensary, Liverpool, vice Prytherch, transferred to the East Dispensary.

MEADE, W., L.K.Q.C.P.I., M.R.C.S.E., has been appointed Medical Officer for the Country District and the Workhouse of the Alverstoke Union, vice F. J. Lowes, M.D., F.R.C.S.E., resigned.

PRYTHERCH, J., M.D., M.R.C.S.E., has been appointed an Hon. Medical Officer to the East Dispensary, Liverpool, vice A. C. Hughes, L.R.C.S.I., resigned.

RUDYARD, A. T., M.D., has been appointed Medical Officer to the St. Pancras Schools, Leavesden.

WALKER, T. O., M.R.C.S.E., has been appointed Certifying Factory Surgeon for Crick, Northamptonshire, vice B. Kerr, M.R.C.S.E., deceased.

WHARTON, H. S., M.R.C.S.E., has been appointed Medical Officer to the Gosport Dispensary of the Royal Portsmouth, Portsea, and Gosport Hospital, vice W. J. Bundle, M.D., Ext. L.R.C.P.L., deceased.

Births, Marriages, and Deaths.

BIRTHS.

BROWN.—On the 7th inst., at St. Bartholomew-road, Kentish-town, the wife of Andrew Brown, L.R.C.S.Ed., L.R.C.S.Ed., of a son.

FOSTER.—On the 7th inst., the wife of Dr. Balthazar Foster, of Birmingham, of a daughter.

HARDESTY.—On the 3rd inst., at Balgay-terrace, Lochee, Dundee, the wife of J. Jeffrey Hardesty, L.R.C.P.Ed., L.R.C.S.Ed., of a daughter.

MOFFAT.—On the 9th inst., at Graham's-road, Falkirk, the wife of Robert Moffat, M.D., of a son.

MORGAN.—On the 2nd of Aug., at Bathurst, N.S.W., the wife of Cosby W. Morgan, M.D., J.P., of a daughter.

SLADE.—On the 7th inst., at Puddletown, Dorchester, the wife of Robert Slade, M.R.C.S.E., of a son.

MARRIAGES.

CAMPBELL—GRIEVE.—On the 26th ult., at Camus, Dalmally, Argyllshire, Andrew Campbell, M.D., of Navenby, Grantham, Lincolnshire, to Christina, eldest daughter of John Grieve, Esq., and niece of James J. Grieve, Esq., M.P.

HALL—BALDWIN.—On the 3rd inst., at St. Bartholomew's Church, Lightcliffe, James Asbridge Hall, M.R.C.S.E., of Hoddersfield, to Mary Helena, second daughter of the late Rev. W. Baldwin, M.A., Vicar of Mytholmroyd. No Cards.

HEMBROUGH—PAGE.—On the 2nd inst., at the Parish Church, Hampstead, John William Hembrough, M.R.C.S., F.R.O.S., &c., of Waltham, Lincolnshire, to Anna Maria, youngest daughter of the late James Page, Esq., of Nottingham.

PERKINS—SKINNER.—On the 3rd inst., at Heavitree Church, near Exeter, Alfred Steele Perkins, Surgeon, to Mary, eldest daughter of the late John Skinner, Esq., of Westacott, North Tawton.

THOMAS—DRAYSON.—On the 8th inst., at St. Paul's, Southampton, Owen Robert Thomas, L.R.C.P.Ed., of Berkeley Villas, Reading, and Hafod Elwy, St. Asaph, North Wales, to Bertha Maude, fourth daughter of Henry Edwin Drayson, C.E.

DEATHS.

BLACK.—On the 5th inst., Glass Black, M.D., M.R.C.P., M.R.C.S.E., of Torquay, aged 71.

DRY.—Lost at sea in the "Glenmark," which sailed from Port Lyttleton, New Zealand, on the 1st of Feb., and has not since been heard of, Thos. Dry, M.D., of Walworth.

EDMUNDS.—On the 1st inst., E. H. Edmunds, Surgeon, of Mount-terrace, Lambeth, aged 76.

GODDARD.—On the 6th inst., L. M. Goddard, M.R.C.S.E., of St. John-street-road, Clerkenwell, aged 63.

HARKIN.—On the 2nd inst., John Harkin, L.R.C.P.Ed., of Londonderry, aged 29.

LEES.—On the 3rd inst., Henry Lees, M.D., of Gloucester-crescent, Hyde-park, aged 59.

M'GOWAN.—On the 6th inst., Francis Da Cruz M'Gowan, M.D., of York-place, Edinburgh.

SADLER.—On the 5th inst., M. T. Sadler, M.R.C.S.E., of Barnsley, aged 71.

Medical Diary of the Week.

Monday, Oct. 14.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

Tuesday, Oct. 15.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
PATHOLOGICAL SOCIETY OF LONDON.—8 P.M. The following Specimens will be exhibited:—The parts six years after Excision of the Astragalus; Cystic Epithelioma of the Eyelid; Organs from a Case of General Xanthelasma; Perinephric Abscess; Multiple Dermoid Tumours; Stricture of the Rectum; Fibro-cartilaginous Tumour growing from the Heart; &c. &c.

Wednesday, Oct. 16.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2 P.M.
CANCER HOSPITAL.—Operations, 3 P.M.

Thursday, Oct. 17.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
HARVEIAN SOCIETY OF LONDON.—8 P.M. Dr. W. H. Day, "On Headache in Children."

Friday, Oct. 18.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, Oct. 19.

HOSPITAL FOR WOMEN, Soho-square.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL REGISTERS.

DR. F. H. SMITH is not original, it appears, in proposing that a register should be kept by every patient, to commence, if possible, from birth, and contain a concise entry by the medical attendant of each disease or attack as it comes under treatment. Dr. Delvaille, of Bayonne, a physician well versed in the literature of his profession, informs us that the same idea had occurred some years ago to M. Fonssagrives, a Professor of the Faculty of Medicine at Montpellier, who embodied it in a pamphlet published in 1869, and entitled "Le Livret Maternel." Addressing not so much the careful, anxious, well-educated mother as the less exemplary one, he wishes her to furnish the following register for the use of the physician:—Name of the child; the diseases of its parents; the relations between father and mother; condition of the child at birth; peculiarities which may have preceded it; facts relative to its nursing, vaccination, dentition; its pulse at different ages; its indispositions and diseases; eruptions; peculiarities of hearing, of sight, digestion, &c. &c. Dr. Fonssagrives lays a burden on materfamilias which we hardly think she will submit to, however anxious about her offspring; and we fear, therefore, that his suggestion will remain a secret to other physicians besides Dr. F. H. Smith. In the army the organisation peculiar to that service provides for each soldier a medical history sheet, in which all his maladies are recorded since he passed the scrutiny of the recruiting surgeon. In civil life such a thing would never be realised, excellent though the result would be.

X. Y. Z., (Montgomery.)—The gentleman was not selected so far as we are aware for the reason stated by our correspondent, and he has not published a work on the subject. Nélaton's probe is of porcelain.

CHOLERA IN THE EAST.

Dr. De Renzy writes to correct an important error into which he alleges we have fallen in what he is otherwise good enough to characterise as our "excellent remarks" on Cholera in the East. He says that the idea of the relative immunity of the native troops from cholera being due to their being subdivided in huts, and not crowded together in barracks, has been quite exploded by Dr. Cunningham in his Report for 1869; and he goes on to state that it is altogether an error to suppose that the native troops live in huts. He alleges, moreover, that the death-rate given by us for the European and native troops is so incorrect that he suspects there must have been an error in printing the figures. Now, we meant to call attention to the contrast which we understood to exist between the native and European troops as regards the relatively greater subdivision of the former. Whether their habitations be called huts or cells, and the cubic space be ever so small, it is still, we believe, the fact that numbers of native soldiers do not, generally speaking, occupy the same room. We are, however, perfectly aware that native regiments occasionally occupy barracks. The Army Sanitary Commission, in their Memorandum of May, 1870, on Dr. Bryden's Report on Cholera, expressly direct attention to the greater subdivision of native than of European regiments as a point worthy of notice in regard to the prevalence of cholera among the latter. Lastly, if there is any incorrectness in the figures given by us, we must shift the responsibility on Dr. Bryden, "whose accuracy in such inquiries is well known," to use Dr. De Renzy's words. We have not his Report at hand; but it so happens that a copy of the Memorandum of the Army Sanitary Commission on that document is before us, and it gives the general results of the attacks and deaths per 1000 from cholera of native and European troops as stated by us.

Scot, L.R.C.P.—The Office is highly respectable in every way.

COMBINATION OF CHLORAL HYDRATE WITH BROMIDE OF POTASSIUM.

To the Editor of THE LANCET.

SIR,—In the last two numbers of your journal mention is made of the efficacy of chloral combined with the bromide of potassium in epilepsy.

About nine months ago, while attending a lady suffering from periodical mania connected with epilepsy of fifteen years' duration, I prescribed chloral to relieve the extreme sleeplessness which existed. Not only was complete rest obtained, but, on the subsidence of the attack, though the fits were not less numerous, a marked improvement in the mental condition of the patient indicated itself. Much physical and mental debility had resulted from the long existence of the malady and frequent occurrence of the fits. Encouraged by this partial improvement, though every likely remedy had previously been unsuccessfully tried, once more she was put on half-drachm doses of the bromide thrice daily, which, with occasional chloral draughts, has since been continued with the best possible result, as there has been no fit for the last six months, the ordinary number before being three during each week. The lady is now in her right mind, and capable of enjoying life. I had tried bromide of potassium similarly before with no benefit. That such now ensued was doubtless owing to the associated influence of the two drugs. I am, Sir, your obedient servant,

Greenlaw, Berwickshire, Oct. 8th, 1872. PATRICK KYNOCH.

SUBTLE REMEDIES.

THE "Heathen Chinee" is apt to plume himself upon the originality and attainments of his great medicine men. Let him not, however, forget that genius, which is confined to no country or race, sometimes sheds its rays and scintillates even among the barbaric Western nations. We commend the following paragraph, taken from the last number of the *Monthly Homœopathic Review* (London), to the consideration of those practitioners in the Celestial Empire who drench their patients with powdered snakes, and what Charles Dickens would have called "catawampous chawers":—

"Dr. ——'s paper on the Physiological Action of Serpent Venom was full of interest, and abundantly calculated to strengthen our confidence in looking to snakes for an important remedy in disease."

Viator.—He is imperfectly qualified, and could only receive an appointment in the absence of a candidate with complete qualifications.

Mr. S. Braithwaite, (Gateshead.)—Dr. West has published a work on the subject, which our correspondent might obtain through any medical publisher.

MEDICAL ADVERTISERS IN THE OLDEN TIME.

To the Editor of THE LANCET.

SIR,—I enclose you a copy of two advertisements taken from the *Commonwealth Mercury* for November 25th, 1658. If you think they will be interesting to the readers of THE LANCET, will you kindly give them a place when convenient. The paper from which they are copied is in mourning for the death of Oliver Cromwell.

1. "If those that be grieved with the Rupture, or Broken Belly, did know the good they might have by me Rowland Pippin, they would search narrowly to find me, and in that their own happiness; the poor for charity; the mean for little; and the rich for reasonable terms. I will stand to all charge for the Cure, until they shall finde by experience their own good, and then but a fourth or fifth part of that we agree for the Cure, toward my present charge out of purse, the rest when they shall know themselves perfectly sound. I have taken a Chamber at the Three Pigeons in the Strand near Somerset house. You shall finde me in the morning's till ten of the clock, and from one to five in the afternoons. I live at Sutton Brewhouse near Gilford in Surrey."

2. "Sir Kenelme Digby's Discourse touching the Cure of Wounds by the Powder of Sympathy. Rendered faithfully out of French into English by R. White, Gent. Sold by R. Lownes and T. Davies in St. Paul's Churchyard."

Yours faithfully,

Darlington, Oct. 6th, 1872. W. EASBY, L.R.C.P. Edin.

LOCOMOTOR ATAXY.

THE September number of the *Dublin Journal of Medical Science*, under the heading of "Select Clinical Reports," by Dr. Arthur Wynne Foot, Junior Physician to the Meath Hospital, contains some interesting and instructive cases of diseases of the nervous system. One is a fatal case of solitary tubercle of the cerebellum, in which amaurosis, locomotor ataxy, occipital headache, vomiting, and tetanoid spasms formed the more prominent symptoms during life; and two are cases of locomotor ataxy—the first being due to a degeneration and atrophy of the posterior columns of the cord and posterior nerve roots; the other an instance of this affection following an attack of diphtheria. In detailing the former, Dr. Foot says that the conventional term "locomotor ataxy" has been employed because it is that in general use; but it can never signify more than a prominent symptom of the disease, and one which is, moreover, observable in other very different affections. He agrees with Professor Hammond in the propriety of adopting a name for the disease derived from its pathological appearances in well-marked cases, such as posterior spinal sclerosis. As a remedial agent, he knows of nothing so useful in the early stages of posterior spinal sclerosis as the constant current. It cannot, however, work miracles, and, to be beneficial, the cord and nerves must be susceptible of repair, not wholly degenerated. The current must be used with diligence and patience, and the special treatment always supported with phosphorus, cod-liver oil, and, if much congestion, ergot of rye. A very well educated medical man, who has been under his care for this disease, expressed his belief that if some of the numerous medical authorities whom he consulted in the early stages, when the disease was not obvious, had only asked him to stand with his eyes shut, and thus detected the disease in its remediable stage, and that then the constant current had been employed, he would have been cured. In connexion with the rapid recovery of a case in which the paralytic disease was a sequela of diphtheria, Dr. Foot remarks that strychnia agreed well, as it notoriously does in diphtheritic paralysis, whereas it is by many regarded as positively contra-indicated in true locomotor ataxy—an opinion with which, from trials of it in several cases, he entirely agrees. Diphtheritic locomotor ataxy is very likely to disappear during the use of galvanism and small doses of strychnia, and the enjoyment of fresh air and rest.

Oriental.—We never recommend a particular physician or surgeon.

DOES SMALL-POX AFFECT THE CHILD IN UTERO?

To the Editor of THE LANCET.

SIR,—A slight local outbreak of small-pox in my neighbourhood during the last week may be worth recording for two reasons. First, that vaccinated children were chiefly attacked; and second, that those attacked were mostly related to one another, though living in different houses, and meeting only at school or in the street.

On Sunday, Sept. 29th, I was sent for to see the first case, a little girl, aged five years. She was lying almost unconscious, with high fever, and a red rash on body and extremities. Next day the papulæ appeared on the face, and came out thick all over the body. The fever was accompanied by delirium for five days, then subsided, and on the ninth day she was doing well. Had been vaccinated in infancy.

On Monday, Sept. 30th, I was called to see a boy, aged ten years, cousin to the girl first attacked, but living in a mews close by. There was a good deal of fever, and the papulæ were numerous; but he was recovering well on the eighth day. Had been well vaccinated in infancy.

On the same day I saw a child, three years old, and well vaccinated by myself. He lived in another house in the same street as the first case. He had about forty papulæ over the face, body, and extremities. Had little fever, and did well.

On Tuesday, Oct. 1st, I was sent for to see two girls, one seventeen years of age, and the other ten, also cousins of the first child, but living in another adjoining street. Both had been vaccinated in infancy. Papulæ appeared on body, but the fever was slight, especially in the younger girl. On inquiry, I found that another sister in this house had ten days previously had what the mother thought was chicken-pox. This girl had before this rash came out been helping to nurse the baby of a cousin, and this baby had died of small-pox after a few days' illness.

The source of infection can therefore be conjectured; but as the families, although related, do not visit each other, it is singular that it should have confined itself chiefly to them. I have since seen a woman with modified small-pox, who must likewise have caught it through the girl with fancied chicken-pox.

With regard to the baby that died, it may be stated that it was fifteen months old, and was unvaccinated. The mother, when pregnant with the child, had a severe attack of small-pox, and was taken to the hospital, and she says that the doctors told her that her child, if it lived, would be safe from small-pox. The result, however, has proved otherwise.

I am, Sir, your obedient servant,

St. Paul's-road, Highbury, October, 1872. GEO. THOS. KEELE.

*** This little outbreak of small-pox among children is curious. It will be noticed that the only child that died was the unvaccinated baby who was in utero when its mother was very ill of small-pox. It is in accordance with other facts, that for a pregnant mother to have had small-pox confers no exemption from the disease on the fœtus.—ED. L.

Dr. John Robertson.—A request to attend can only be binding on the person to whom it is addressed. If there is a specific understanding between our correspondent and the gentleman to whom the request was sent, all that is necessary is for the latter gentleman to hand over the fees. If not, the ordinary course of etiquette would be for our correspondent to hand over the case.

L.R.C.P. Ed.—Cases of the kind were stated to have occurred some time ago, and their details were published in the medical journals.

ROYAL MEDICAL COLLEGE, EPSOM.

THE Wakley Memorial Prize is given at Epsom College every other year in the shape of a £20 note and a certificate, illuminated on vellum, and signed by the President, Visitor, Treasurer, and Head Master of the College. It is given on alternate years with the Prize, of the same value, founded in honour of the late Dr. Hodgkin. The mode of award differs from that which is usual in schools. Each year, towards the end of Easter term, the Head Master, in consultation with the Assistant Masters, selects four or five boys who have been in the school not less than three years, and are about to leave, and who have been distinguished by progress in studies and good conduct. From among these selected boys, the rest of the school (with the exception of the little boys in the lowest two forms) elect the youth who is to have the prize by ballot. The names of the winners of these prizes are painted from year to year on a board put up in the large school-room. The winners of the Wakley Prize have been—

1866	F. Hay.	1870	G. S. Boulger.
1868	C. H. Cotes.	1872	W. E. Tennant.

C. M.—We presume that application for such appointments must be made through the officer commanding the regiment. Our correspondent had better communicate officially with the Secretary for War, War Office, Pall-mall, for information in regard to the other points.

Dr. Kinder is thanked for his courtesy.

ADMINISTRATION OF CHLOROFORM TO CHILDREN DURING SLEEP.

To the Editor of THE LANCET.

SIR,—In reply to the letter of Dr. Whitmarsh, which appeared in your last impression, respecting the administration of chloroform to children during sleep, I beg to say that I have been in the habit of so administering chloroform when the opportunity occurred. During the time I was house-surgeon to the Bristol General Hospital, where I had frequently to give chloroform to children to straighten their legs in hip-joint disease and the like, I used to consider myself fortunate if I could catch the child asleep, and so give it chloroform without disturbing it; the advantage of such a proceeding being that the child speedily became under the influence of the anæsthetic without that alarm and crying and irregular inspirations which are so common in the administration of chloroform to children. The only precaution which I ever found necessary to prevent them from awaking with the first inspiration of the chloroform was, that the inhaler should be first held at a moderate distance from the child's face, and gradually approached nearer until the requisite degree of anæsthesia was produced, which would be judged of by the usual signs.

I am, Sir, yours truly,

Clifton, Bristol, October, 1872. N. W. DOBSON, F.R.C.S. Eng.

THE DEFENCE OF VACCINATION.

MR. PADLEY, one of the physicians to the Swansea Hospital, has been taking the trouble to convince gainsayers in the matter of vaccination in a series of letters in the *Cambrian*. He has had for opponents, with one exception, rather a more reasonable group of anti-vaccinators than usual, and we hope he has done them good by his able statement of the facts. We confess to having almost given anti-vaccinators up as hopeless. Anything more clear than the advantages of vaccination, and anything more hopeless than the intellectual condition that does not perceive them, we cannot imagine. Nevertheless, we the more admire the patience of intelligent physicians who can fight the battle o'er again with such uninteresting foemen.

K. Z.—Registered medical men have a legal exemption from such duties; therefore magistrates have no authority to put them on jury lists.

Mr. W. L. Muir.—We cannot forward private answers. We believe it to be perfectly safe.

AGUE.

To the Editor of THE LANCET.

SIR,—In reply to "M.B.," I will mention bromide of potassium in three-grain doses three times a day, as having succeeded where quinine had failed to give relief. In cases where the latter causes much gastric disturbance, salicin is often better borne. Professor Piorry, of Paris, strongly recommends the Berberis vulgaris; but our knowledge of its febrifugal properties is at present limited. Yours truly,

Liverpool, October 8th, 1872. C. ELLIOTT, B.A. M.B.

To the Editor of THE LANCET.

SIR,—I would recommend "M.B." to give up taking quinine and arsenic for the cure of his ague, and suggest the use of from fifteen to twenty grain doses of the hyposulphite of soda in water three times a day. I am given to understand by an Indian surgeon that the remedy in question is far superior to any other drug; consequently I hasten to give your correspondent a wrinkle that has recently been communicated to me.—Yours truly,

October 7th, 1872. CULPHO.

To the Editor of THE LANCET.

SIR,—In your last week's number "M.B." asks for a remedy for chronic ague. In the year 1853 I published a paper on this subject, and since then I have had no cause to alter the treatment I then recommended. It is iodide of potassium in doses of from five to ten grains, according to age, sex, &c., dissolved in a bitter infusion, and perhaps with tincture of capsicum as well. If your correspondent will try this remedy, I think he will not be disappointed. Yours truly,

Beckley, Ashford, October 9th, 1872. E. F. SANKEY.

One who has Lived in the Tropics.—His case is not by any means an uncommon one. It is often very difficult to shake off the effects of a malarious disease contracted in the tropics, and, spite of quinine and other anti-periodics, they are apt to recur again and again after slight exposure to cold, even after long intervals.

B. A.—Why not forward a communication to Colonel Henderson? It is an affair for the police.

THE MIDWIFERY LICENCE OF THE COLLEGE OF SURGEONS OF ENGLAND.

C. B. L., referring to paragraph 6 of the Regulations for the Diploma in Midwifery, puts two questions to us. The paragraph is as follows:—

"Persons having commenced their professional education either by attendance on hospital practice or on lectures on anatomy after the 31st day of December, 1852, will be admitted to examination on producing certificates of being twenty-one years of age; of having been engaged during at least four entire years in the acquirement of professional knowledge; of having completed, at recognised schools, the professional education required of candidates for the diploma of member of this College; of having attended one course of lectures on Midwifery and the Diseases of Women and Children, and of having personally conducted thirty labours."

Our correspondent asks—"1. Can that certificate, when obtained, be registered under the Medical Act? 2. In what position does it place him with reference to the legal phase of the Medical Act?" The questions are important, particularly when special midwifery qualifications are being discussed. Neither the licensing bodies nor the Medical Council like registering a midwifery qualification apart from other qualifications. But the Medical Act allows of such registration. Paragraph 6, and also 5, which is similar to it, contemplate a course of education which fits a student for examination for the membership, though neither requires a diploma. The following may be taken as the points of this question:—1. That under paragraph 6 of the Regulations for the Diploma in Midwifery, a candidate is admissible to examination on the production of the several certificates enumerated in that clause, and without the possession of any qualification in medicine or surgery. 2. That the certificate of qualification is registerable under the Medical Act, being included amongst the registerable qualifications specified in Schedule A to the Act. 3. That under section 31 of the Act, the holder of the certificate is entitled to practise midwifery, but not, as we interpret that section, to practise generally medicine and surgery. 4. We are not sure that the certificate carries with it any special legal advantage; but it has been found useful to its holder when a candidate for a public appointment where special qualification in midwifery has been considered necessary; and, doubtless, the possession of the qualification would be held to enforce a claim for obstetric services in a County Court, though this might be admitted as a matter of contract without a qualification. 5. That as a matter of fact the certificate has only been granted by the College of Surgeons in one case to a candidate who did not possess any medical or surgical qualification, and that the candidate in question has since obtained two other qualifications registerable under the Medical Act. 6. We believe that when a candidate is admitted to examination without possessing any qualification under paragraph 6, he is subjected to a general *viva voce* examination in anatomy and surgery, in addition to the special examination in midwifery.

A Military Surgeon writes to us from India, strongly recommending chloral in cholera.

OVARIOTOMY.

To the Editor of THE LANCET.

SIR,—On July 18th, 1872, I operated, at her own house, on A. B——, aged thirty-six, mother of two children, youngest aged thirteen, for ovariotomy. The tumour, which measured forty-five inches in circumference, had existed about four years, increasing in size, slowly at first, and latterly more rapidly. Paracentesis had been performed on the 27th of April, but the cyst rapidly refilled. An incision about three inches in length was made nearer the pubes than the umbilicus. One adhesion only required interference with clamp and cautery. The wound was secured by three silver sutures, and the pedicle (which was not large) by a clamp. The upper part of the wound healed by first intention; the sutures were removed on the sixth day, and the clamp fell off at the end of the 9th. Morphia was injected hypodermically for twenty-eight days. No nutritive enemata given at all. The cyst was multilocular, and contained two gallons of fluid, less half a pint. Yours, &c.,

October, 1872. JOHN MANLEY, M.R.C.S.

WE are requested by *Dr. Frederick H. Smith*, of Lewisham Hill, to state that the form entitled "The Register of Health," referred to in his communication of the 21st ult., is published by Messrs. Letts, Son, and Co., Royal Exchange, London.

M.D. (Liverpool) begs to say, in reply to the letter of "M.D., M.R.C.S., L.A.C.," in last week's LANCET, that, in consequence of a large number of applicants for the appointment, an unavoidable delay was necessarily caused; but on the appointment being filled up, all testimonials and cartes were returned to their respective addresses.

P. M. R., (Galway.)—The information will be found in an excellent little work by an Austrian physician, Dr. de Rochlitz. It is published by the Messrs. Longman, price one shilling.

HOSPITAL AND CLASS FEES.

To the Editor of THE LANCET.

SIR,—Your correspondent, "Juvenis," complains of the large fees, as he thinks, which are demanded by the authorities of St. Bartholomew's Hospital of medical men desirous of attending the lectures and practice. He will be glad to learn that from time immemorial the lectures and practice have been freely open *without fee* to all legally qualified practitioners of medicine and surgery. I have no reason for believing that St. Bartholomew's is an exception in this respect among the metropolitan schools of medicine. I am, Sir, your obedient servant,

W. MORRANT BAKER,
Warden of the College, St. Bartholomew's Hospital.

St. Bartholomew's Hospital, Oct. 5th, 1872.

WEYMOUTH SANATORIUM.

THIS institution supplies an important want of the community, and especially because medical assistance is rendered by it to a class of persons above the labouring poor, who when they become sick are quite as unable to provide the means for obtaining such assistance as the poor themselves. From the Report of the twenty-fourth anniversary meeting we learn that the number under treatment at the Sanatorium on the last Report was 10, and 85 have been admitted since, making a total of 95 in-patients treated during the year ending August, 1872. Of these, 67 were cured, 14 relieved, and there are 14 still under treatment. The length of time these patients remained in the Sanatorium varied in individual cases from one to twenty-six weeks, or an average of six weeks. Dr. Smith, the honorary secretary, stated that the sum in hand towards the endowment fund amounted to upwards of £4000.

An Inquirer, (Liverpool.)—Our advice is that the clothes be destroyed under the circumstances. We should prefer doing this to running any risk in the matter.

WE have to acknowledge the receipt of a reprint of the abstract of a paper on "Ammonia in the Urine in Health and Disease," but are unable to notice it this week.

THE MEDICAL DIRECTORY AND FOREIGN DEGREES.

To the Editor of THE LANCET.

SIR,—The letter of your correspondents, the "Editors of the Medical Directory," opens up the question of the insertion of foreign degrees in the Directory for the coming year. I would offer a suggestion to them, that they should give admission to foreign degrees held by medical practitioners in England, but that the same should be printed in red ink. A brief note to that effect might be appended to the abbreviation list. This course would satisfy the holders, and would supply the necessary discrimination to the general public. Yours truly,

September 28th, 1872. FAIR PLAY.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir Lawrence Peel; Mr. Banks; Dr. A. Brown, Kentish-town; Mr. Richardson; Dr. Arnison, Newcastle; Dr. Elliott, Liverpool; Mr. Nimmo; Mr. Roberts; Dr. Easby; Dr. Yarrow; Mr. Dobson, Clifton; Mr. Copeman; Mr. Moore; Dr. Holt, Castleford; Mr. Austin, Uppingham; Mr. Wilmington; Mr. H. Anderton; Mr. Jackson, Canterbury; Mr. Bond, Tiverton; Mr. Halford, Sevenoaks; Dr. Nesbitt, Paris; Mr. Lawson; Mrs. Abercrombie; Mr. S. Braithwaite, Gateshead; Mr. Dennis, Norwich; Mr. Smith, Lewisham; Mr. R. Jones; Mr. Beaumont, Toronto; Dr. Philipps, Exminster; Mr. Budd, Bournemouth; Mr. Williams; Mr. Sturgeon, Cork; Mr. Sarle; Dr. Steele, Liverpool; Mr. Gambier; Mr. Lawson Tait, Birmingham; Mr. Bivington; Dr. Lucas; Mr. Padley, Swansea; Mr. Carey, Guernsey; Dr. De Renzy; Mr. Wordsworth; Mr. Baker; Mr. Lloyd, Lambeth; Mr. C. L. Acland, Colchester; Mr. Corsten; Mr. Marsh; Mr. Plumptre; Mr. W. Atkinson, Sheffield; Mr. J. Godfrey; Mr. E. Porter, Rugby; Mr. Mostyn, Andover; Mr. Brown, Hungerford; Dr. Drury; Dr. Cheadle; Mr. Bird; Dr. Grey, Cape of Good Hope; Dr. Hawkes, Hanwell; Mr. Miller; Mr. Holcombe; Mr. Belcher; Mr. French; Mr. Fulton, Leicester; Mr. Morey, Birmingham; Dr. Macdonald, Southampton; Mr. Jones, Bristol; Mr. Johnson, Presteign; Mr. Milne, Aberdeen; Mr. T. Neild; Mr. P. Norton, Hanley; Mr. Duncan, Glasgow; Dr. Heaton, Leeds; Mr. Gaskin, Southampton; Dr. Hardesty, Lochee; Mr. Holland, Weybridge; Mr. Pratt, Ormskirk; Mr. Maclure; Mr. Phillips, Weston-super-Mare; Mr. Currie, Grampound; Dr. Jeune, Boulogne; Mr. Hunt, Belford; Mr. Jackson; Dr. Jordison, Whitechurch; Dr. Walker, Hanley; Mr. Slade, Puddletown; Mr. Warren; Mr. Freeman, Ludlow; Mr. W. Jay; Dr. Day, Geelong; Mr. Werthington, Wahgunyah; Dr. Jermyn, Belfast, Victoria; Mr. Hall, Hobart Town; Dr. Morgan, Bathurst, New South Wales; Dr. Mickle; Dr. Mackinder, Gainsborough; Mr. Kynoch; Dr. Dawson; Dr. Foster, Birmingham; Mr. Williamson; Dr. Morehead, Edinburgh; Mr. Woodley; Dr. Moffat, Falkirk; Mr. P. Vorley; Dr. Goyder, Bradford; Dr. Sankey, Beckley; Mr. Verity; Mr. Cooper, Cardiff; Mr. Barker, Sidcup; Captain Valpy; Dr. de Vaux, Cannes; Dr. Plumbe, Maidenhead; Mr. Horne; Dr. Cassells, Glasgow; Dr. Turner; Mr. Stevens; Messrs. Jones, Son, and Mundy; Culpho; M. A. B.; P. M. R.; J. R.; C. M.; W. R.; Scot, L.R.C.P.; M.D.; The Registrar-General, Melbourne; W. E. A. A.; X. Y. Z.; Zeta; &c. &c.

Whitehaven News, Commercial Compendium, Local Government Chronicle, Sale and Barter, Leeds Mercury, Epping Express, Penrith Observer, Limerick Reporter, Metropolitan, Australian Medical Journal, Belfast Gazette (Victoria), *Melbourne Argus, Downpatrick Recorder, Melbourne Age, Wahgunyah Chronicle*, and *Buxton Advertiser* have been received.

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